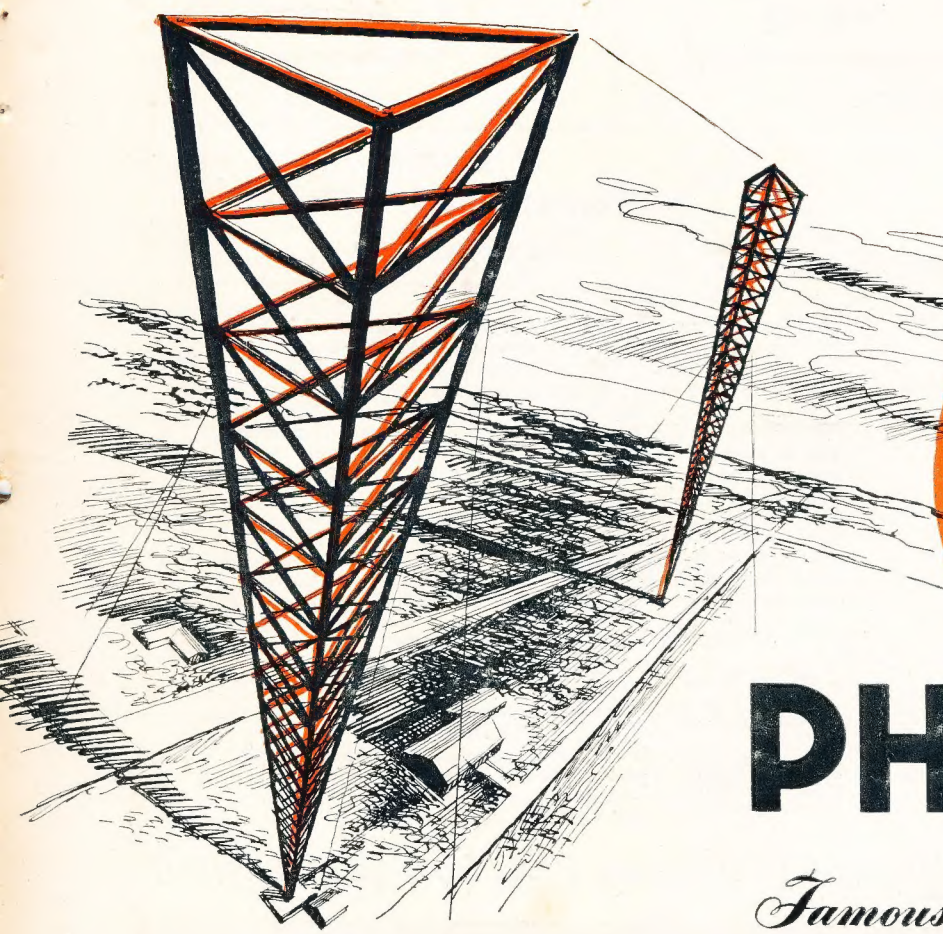
AMATEUR RADIO

JULY 1948

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA



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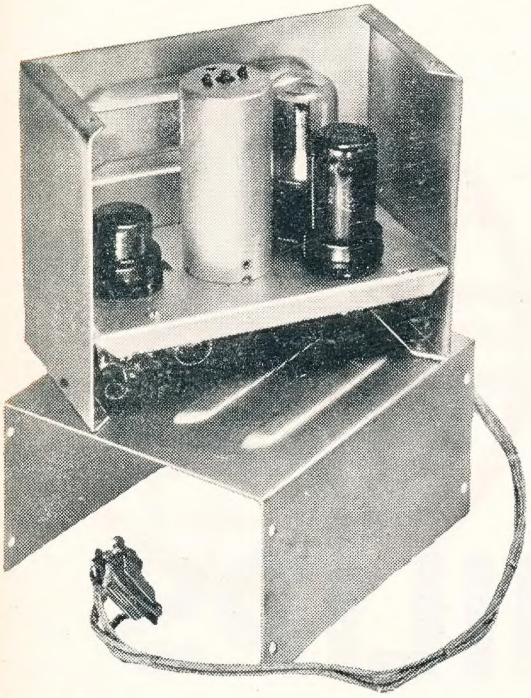

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AMATEUR RADIO

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EDITORIAL

★

In this issue you will find the official announcement of the formation of the Post-War R.A.A.F. Radio Reserve. This information will be received with satisfaction by a great number of Australian Amateurs who served in the R.A.A.F. during the War. The offer of the W.I.A. to assist in launching the plan and recruiting personnel has been accepted by the R.A.A.F., thus the W.I.A. is in a somewhat similar position to that of 1929, when the original R.A.A.F. Wireless Reserve was launched. On that occasion, the conception of such a Reserve emanated from the W.I.A., was accepted by the R.A.A.F., and up to the outbreak of War, the Wireless Reserve was a consistent W.I.A. activity. This time, although the W.I.A. occupies an analagous position, the scope and aims of the project are on a scale never dreamt of in the pre-war days. Then, a Reserve of 200 was considered a very valuable contribution; today, the R.A.A.F. seeks 2,000. Then, the Service was seeking only Amateurs' skill as telegraphists; today, this qualification is of small moment, it is technical aptitude, ability and knowledge that is sought.

The reasons for this changed requirement are of considerable interest. Before the last war, the value of radio generally, in time of war, appeared to be its inherent ability to provide communications between two points without the necessity of running landlines or cables, or between such points where line communication was impossible. The war brought an entirely new conception of the vital part which radio could play, with the introduction of Radar, the amazing growth of Radio Navigational devices and the building up of complex operational systems, such as Fighter Control. At the same time, with the war being fought on a global scale at an ever-increasing tempo, the inadequacy of the morse code as a method of conveying intelligence between two points became apparent. It was too slow, required too many personnel, with specialised operator training and took up too many channels in a very much overloaded frequency spectrum. An interim solution for main point to point circuits was provided by the introduction of multi-channel radio-teletype systems and extended use of R/T for "hot" operational channels. The major problems still remained, however, and with the post-war development of atomic weapons, supersonic rockets and aircraft, are further accenuated. It is outside the scope of this Editorial to discuss future Service Radio operational requirements, but sufficient has been said to indicate clearly why morse code proficiency is no longer a basic radio requirement.

In the technical and administrative field lies the major contribution which Amateur Radio can make to the R.A.A.F. Radio Reserve. It has often been said, however, and quite correctly too, that the technical standard of the average Amateur is fairly low. As Amateur Radio is a hobby and not the life's work of the majority of Hams this fact is understandable and appreciated. However, to have interested himself in radio sufficiently to pass the necessary examination and secure a station licence is a definite indication of technical aptitude, and technical aptitude plus well directed training spells technical proficiency. Another aspect that must not be forgotten is that the average Ham has a wealth of practical experience, the value of which was proved countless times during the war. Part of the task of the Radio Reserve, therefore, is to take an Amateur, build on his practical experience by familiarising him with Service equipments, and through properly training, to fill in the gaps in his technical knowledge. This is only half the story, however, as one of the great features of the plan is the complete integration of the Radio Reserve with the R.A.A.F. at all levels. Amateurs will be trained in accordance with their qualifications, Service and general experience for appointments ranging from Senior Staff positions in the Directorate of

(Continued on page 8)

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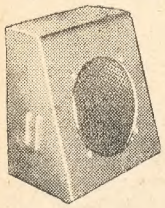

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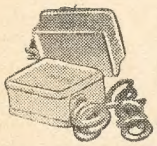

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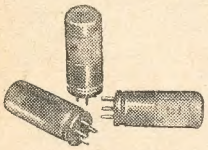

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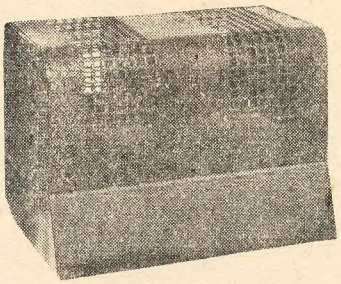

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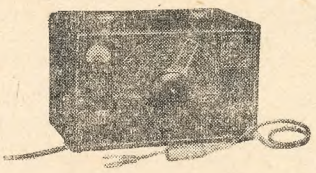

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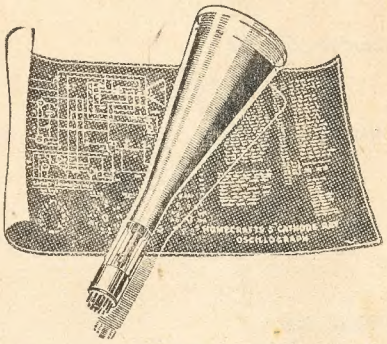

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One-Tube Preamplifier—The "R-9'er"

The "R-9'er," which has become quite well known in Australia, is re-printed from G.E's. "Ham News" by the request of quite a number of members. We are indebted to VK2AGH for furnishing the Magazine Committee with this information.

Are you having trouble picking those weak DX signals out of the noise? The "R-9'er," using a single 6AK5 miniature tube, is designed to do exactly that. The "R-9'er" is an electronic impedance-matching devise and a broad-band pre-amplifier, designed to work primarily on the 28 and 50 Mc. bands.

PERFORMANCE CHARACTERISTICS

The gain which can be achieved by this unit depends upon how well your antenna is matched to your receiver, but the minimum gain which may be expected is 30 decibels—about 5 S points! This gain comes about in two ways. The "R-9'er," once it is tuned, automatically matches your receiving antenna to your receiver. In the usual Ham shack this problem is not given much consideration, but a tremendous gain can be obtained by a proper match. The problem is doubly important on the 28 and 50 Mc. bands, as at these frequencies the input impedance of the receiver may vary widely from its stated value. For example, a widely known communication receiver, stated to have an input impedance of 250 ohms, actually had an input impedance of 1500 ohms on 28 Mc. Tests made recently show that the average gain experienced, merely by properly matching the receiving antenna, is from several db to as high as 30 db.

In addition to this gain, the 6AK5 miniature tube acts as a broad-band r.f. amplifier stage, giving an additional gain of approximately 30 db. This tremendous gain is possible only because of the electrical characteristics of the 6AK5. This tube has a transconductance of 5000 micromhos, which means that a voltage gain of approximately 35 can be achieved with a plate load of 7000 ohms, as used in the "R-9'er." This amount of gain has been available only by former tubes at narrow band-widths and with higher noise levels. The 6AK5 has been designed to give these high gains at wider band-widths and at lower noise levels.

Here then is what the "R-9'er" will do for you —60 decibels gain (or more) if your present receiving antenna is not matched, or, assuming it is perfectly matched, a 30 decibel gain. In tests conducted at W2RDL's shack, "R-9'er" brought in signals which couldn't ordinarily be heard even with the use of the b.f.o.!

CIRCUIT DETAILS

Referring to Fig. 1, the circuit consists essentially of a broad-tuned grid and broad-tuned plate circuit, a standard cathode bias system, and an adjustable screen supply. The grid and plate circuits are identical except that capacitor C5 is employed as a plate blocking capacitor so that the plate tuning capacitor may be grounded.

In the grid circuit, capacitors C1 and C2 form the impedance matching network. A regular two-wire transmission line from the receiving antenna is brought to the input terminals, or a single wire antenna may be used and connected to the input lead which connects to the junction of C1 and C2. Inductance L1 must be tunable so that resonance may be achieved after C2 has been adjusted to match the antenna. Once C2 and L1, as well as C7, and L2 have been set, no further tuning is required for operation on that particular band.

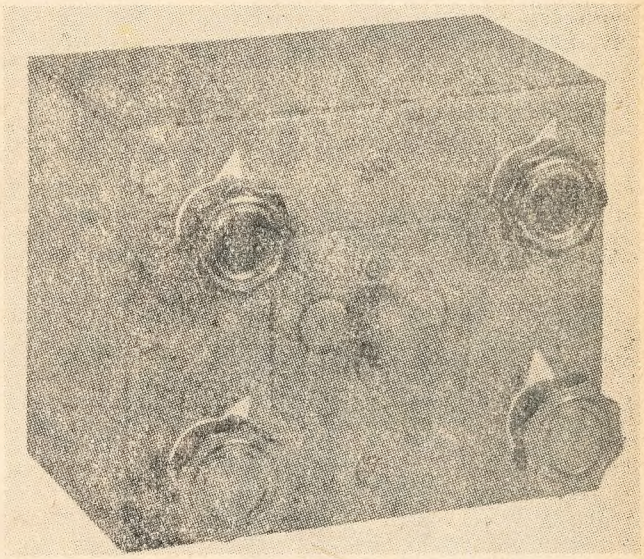


Fig. 2—Front view of the "R-9'er."

With the constants shown, the "R-9'er" will match any input and output between 16 ohms and 2700 ohms. This may be calculated:

$$\text{Impedance} = \frac{7000}{\left\{\frac{C1 + C2}{C1}\right\}^2}$$

The same formula may be applied to the plate side by substituting C6 for C1 and C7 for C2.

All constants given must be strictly adhered to in duplicating the "R-9'er," as even the values of the by-pass capacitors are important. R1 and R5 must be 7000 ohms, as the band-width will be altered and the impedance formula changed if different values are used.

The band-width of the "R-9'er" with the constants as shown is approximately two megacycles on ten meters (28-30 Mc.) and five megacycles on six meters (50 to 55 Mc.), dropping off only one or two db. at each end of the band when it is peaked in the centre of that band-width.

The plate voltage is not critical, and any voltage available in your receiver will operate the 6AK5 satisfactorily.

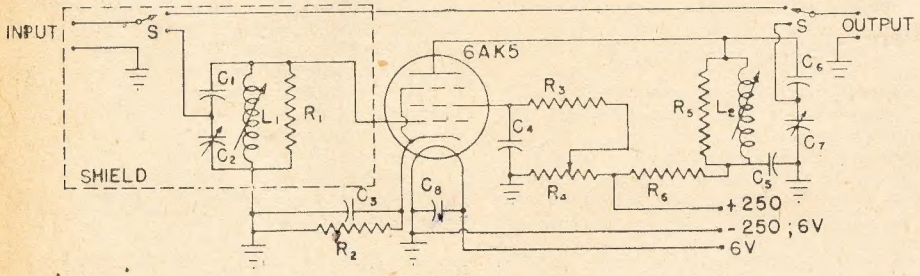


Fig. 1—Circuit Diagram of the "R-9'er"

C1, C6—5 pF. fixed ceramic*.
C2, C7—100 pF. variable.
C3, C4, C5, C6—500 pF. 400 volt mica.
L1, L2—Slug-tuned ceramic formers.
14 Mc.—See text.
28 Mc.—16 turns of No. 26 enamel, close wound.
50 Mc.—8 turns of No. 26 enamel close wound.

R1, R5—7000 ohm, ½ watt†
R2—200 ohm, 1 watt.
R3—15000 ohm, ½ watt.
R4—25000 ohm, 4 watts potentiometer.
R6—10000 ohm, 1 watt.
S—D.P.D.T. wafer switch.

* See text.

† Refer to text for location of resistors.

CONSTRUCTIONAL DETAILS

The "R-9'er" is built in a 3" x 4" x 5" box, with all component parts mounted on the front panel. Fig. 3 shows the essential details of construction. The switch, S, and the potentiometer, R4, are the two controls on the upper part of the front panel, with capacitors C2 and C7 being mounted directly beneath.

The coil box occupies the central portion of the box, and is so arranged that the main support on the coil form, a piece of ⅞" by 1½" aluminium, ¼" thick, just fits into the central shield on the box, which is also made of ¼" thick aluminium. With the coil plugged into the "R-9'er," a solid shield is thus formed which completely isolates the grid section from the rest of the circuit. It is very important to have complete shielding between grid and plate. The polystyrene base on the coil is 1¾" by 1½", and the aluminium front of the coil

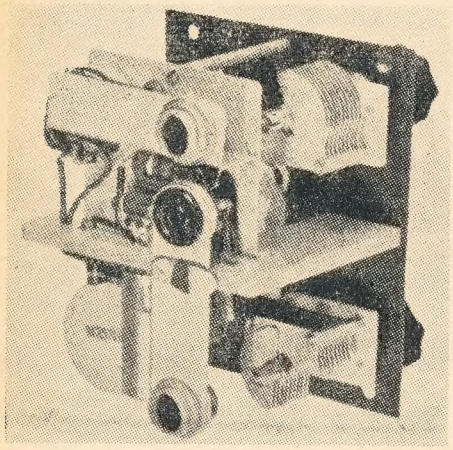


Fig. 3—Rear view of "R-9'er" on its side showing constructional features.

measures 2" by 1¾". One corner is cut on the polystyrene base in order to provide a method of keying the coils for proper insertion. The cut-out in the panel is similarly keyed. The coil forms are mounted on a thin piece of aluminium (see Fig. 4) so that the centre of the grounding strip contacts a grounding spring mounted on the ¼" aluminium shield. This grounding spring is identical to the one shown in Fig. 3 which is mounted on the rear of the shield. The purpose of the latter spring is to contact the inside of the box, in the rear, for good grounding.

The pins on the coil fit into two crystal sockets. These sockets are mounted on the ¼" wide aluminium shield.

The 6AK5 tube is mounted horizontally. Fig. 3 shows how the grid pin on the tube socket projects on one side of the shield with the remainder of the pins on the other side of the shield. Switch, S, is mounted on this shield. The input connection is mounted on a third shield which cuts through the centre of switch, S, shielding the input and output circuits.

Placement of parts is not too critical if adequate shielding is maintained. Lack of shielding may cause unwanted regeneration and possible spurious oscillations.

OPERATING ADJUSTMENTS

Input and output connections should be made to the "R-9'er" with well-insulated wire, preferably co-axial cable. Switch S should be set so that the amplifier is cut out, and the receiver tuned to a signal in the approximate centre of the band. A local signal is preferable. The amplifier should then be cut in by the switch, the screen potentiometer adjusted to give maximum voltage, and the grid condenser (C2) tuned together with L1 until the signal is heard. The signal should then be peaked with an R-meter or an output meter by tuning L1, adjusting C2, retuning L1, re-adjusting C2, etc., till the signal is maximum. This process should be repeated with the plate circuit, C7 and L2.

If C1 is found to be at full maximum or minimum capacity, the length of the antenna feeder must be altered. Conversely, the length of the line between the "R-9'er" and the receiver must be altered if C7 does not tune near its middle capacitance. To correct this situation, add a quarter-wave length of line and prune this line until the capacitor peaks the signal at approximately centre scale. For 50 Mc. operation the output line should be as short as possible, to ensure minimum capacitance on the output side.

After the entire unit has been peaked, the screen potentiometer (R4) should be adjusted for maximum output, keeping the voltage on the 6AK5 screen as low as possible, with output as high as possible. Once all adjustments are made for both coils, it is only necessary to peak capacitors C2 and C7 when changing bands, as the coils remain at resonance after once being adjusted.

Coil data for L1 and L2 is given for only 28 and 50 Mc. operation, although the unit will operate on any band.

THE "R-9'ER" FOR 14 Mc.

The coils are the most important part of the pre-amplifier. Unless the coils are of a sufficiently high Q very little gain may be achieved. This is because the band-width of the "R-9'er" is jointly dependent upon the Q of the coil, the resistance across the coil and the distributed capacitance in the circuit. It is desirable to have a coil with a sufficiently high Q that the band-width is effectively dependent only upon the resistance across the coils and the distributed capacitance. (R1 and R5, referring to the original diagram.)

Coils wound with a large diameter wire which is poorly insulated will have a low Q. Similarly, the Q will be lowered if it is necessary to overwind the coil, that is, if more than one layer of wire is used. High Q coils will be achieved if the wire is of a diameter which will allow the proper number of turns to fit exactly onto the coil form in one layer. It is very important also that the wire be well insulated. Silk-covered wire would be preferable. Avoid enameled wire if the enamel seems the least bit cracked or worn.

The "R-9'er" will work on 14 Mc. but it will be necessary to make several minor changes if optimum performance is to be realised. The first change should be to remove R1 and R5 from the circuit. These should be replaced in duplicate on the 28 and 50 Mc. plug-in coils and wired directly across L1 and L2. In other words, L1 and L2 on the 28 Mc. coil should each have a 7000 ohm resistor added in parallel to them. The 50 Mc. coil should be changed similarly.

It is necessary to make this change as the 14 Mc. coils will require a different resistance in parallel and it is necessary to remove the internal resistance in order that the proper resistance will be added to the circuit automatically when coils are changed.

The 14 Mc. coil should be wound with 25 turns of very small wire. As explained before, this wire should be small enough to allow all 25 turns to be placed in one layer. The resistance to be added across the coil will now depend upon the Q of the coil in the circuit. For example, if the coil Q is 100, the resistance to be added across both coils should be 25000 ohms. For a Q of 75, 36000 ohms should be added. For a Q

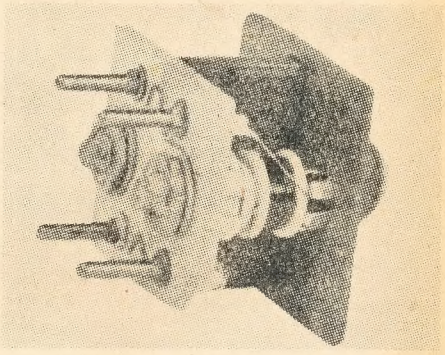


Fig. 4—View of "R-9'er" Coil Box (note that Coil is mounted on a Polystyrene base).

of 50, the resistance should be omitted entirely.

Inasmuch as very few of us will be able to measure the actual Q, it is suggested that the resistance be omitted entirely on the 14 Mc. coils. If the "R-9'er" then seems to be too sharp and covers too narrow a band, resistors should be added across L1 and L2 on the 14 Mc. coil until the band-width is approximately 1 megacycle. The band-width can be judged roughly by tuning the receiver across the band and listening for the slight amount of background noise which indicates that amplification is being achieved. When the increased background noise covers approximately one megacycle on the dial the band-width may be considered to be approximately one megacycle. After resistors have been added which broaden out the band-width to this value, the coils should be properly adjusted.

Another change that is suggested for operation on 14 Mc. is to make C1 and C6 10 pF. instead of 5 pF. This change will give added sensitivity on 14 Mc. and will not affect operation on 28 and 50 Mc. appreciably.

With changes made as described above the "R-9'er" will give appreciable gain on the 14 Mc. band, although it will not be as great as that obtained on 28 and 50 Mc.

Propagation of Radio Waves

BY N. S. SMITH*, VK3YY

Although not 100% practical, it was thought that a brief article on the factors governing the propagation of radio waves might be of interest to those who have not had time to study this aspect of radio. An understanding of propagation fundamentals helps one to visualise why the bands go dead at times, why fading occurs, and other phenomena.

It is proposed to condense this into two articles although the subject could cover much wider fields.

1 (a) Basic nature of a radiated wave.
  (b) Propagation at medium frequencies (550-1600 Kc.).
2 (a) Propagation in the range 3-30 Mc.
  (b) Propogation above about 30 Mc.

1a.—A radio wave propagated from an aerial consists essentially of two components:—

(i) A field parallel to the radiator and termed the "electrostatic," "static" or "electric" field.
(ii) An electromagnetic or magnetic field at right angles to (i) also termed "induction field."

These two fields at right angles to one another are also each at right angles to the direction of propagation of the wave. This sounds complicated, but Fig. 1 will help in understanding this point. This illustration should be considered as a section of the radiated

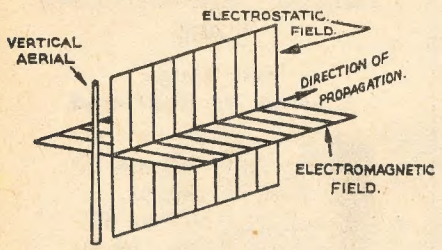


FIG. 1.

wave, which actually exists all around the aerial. The "induction field" (ii) dies away fairly rapidly, inversely proportional to the square of the distance from the aerial. In other words if the signal is of a certain value at a distance "d," it is only one-quarter

$$\left\{\frac{1}{d^2} = \frac{1}{2^2} = \frac{1}{4}\right\}$$

as strong at twice the distance (2d). It is thus considered as contributing but slightly to the radiated signal value at a distance.

The "static" or "radiation field" is the useful radiation from an aerial and its value varies **inversely** as the distance, that is, at twice the distance it is half as strong. A term commonly used in referring to a radiated signal is "polarisation." This merely indicates the plane in which the "radiation field" lies, thus since this field is the one parallel to the aerial, a vertical aerial radiates a vertically polarised signal, and a horizontal aerial a horizontally polarised signal. Actually, after the wave has travelled some distance from the aerial the polarisation may become more complex due to reflections from the ground etc.

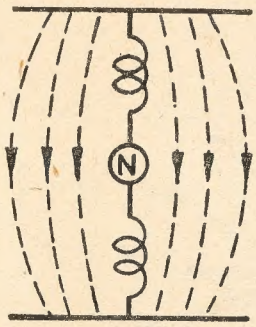


Fig. 2a.
Field building up.

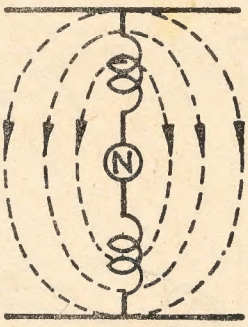


Fig. 2b.
Start of collapse of field.

It is rather difficult to explain briefly the process of radiation from an aerial, but the following elementary description may assist in visualising this complex action. When an aerial is connected to a transmitter it is supplied with alternating energy at relatively high frequencies. Thus the fields referred to above are building up and collapsing at a high rate. This means that the aerial is being fed with alternate positive and

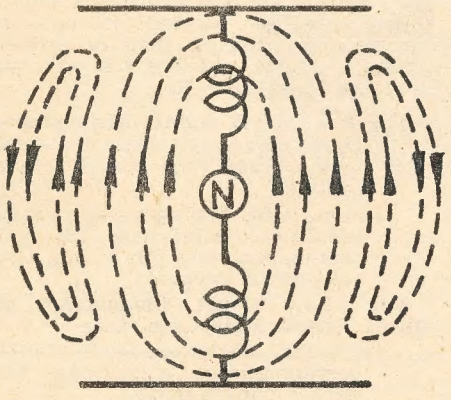


Fig. 2c.—Field of opposite polarity building up and causing radiation of part of previous field.

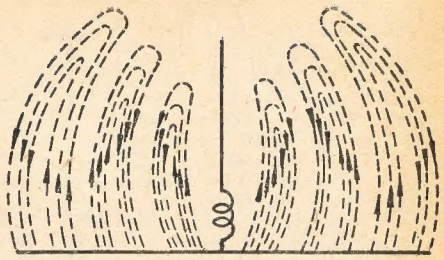


Fig. 2d.—Radiation of field from a grounded aerial in annular loops.

negative charges of electricity. It is a fundamental law that whenever the current flowing in a circuit changes, energy is radiated from the circuit in the form of electromagnetic waves, which travel out into space with the velocity of light. Thus in any alternating current circuit there is always a radiation of energy, the amount radiated being related to the frequency of the a.c., more energy being contained in high frequencies than in low.

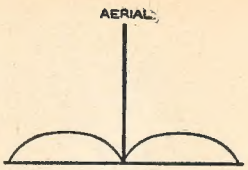
Consider a positive half cycle of energy building up a field. After it has reached its maximum value it commences to collapse, and in doing so tends to change its direction (Lenz's Law). The negative half cycle however is now arriving at the aerial and commencing to build up a negative field, this is in the same direction as the **collapsing field** and tends to repel it from the aerial, giving rise to radiation. This process is repeated every half cycle and thus the energy is radiated from the aerial. Figures 2a, 2b and 2c illustrate this process.

A moment's thought will show that if the fields are changing at a slow rate (such as 50 cycles/sec.) there will be time for a full collapse of one half cycle before the other one builds up to reasonable strength. That is why radiation from power lines is relatively weak, increases through the audio frequency band, and improves rapidly as the radio frequency field is entered. Such is a brief elementary picture of radiation, in which, of course it will be appreciated, many factors are not considered.

1b. Propagation at medium frequencies (550-1600 Kc.).—The medium frequency band is useful in providing broadcast services up to about 80-150 miles radius, which area may be regarded as the primary service area of the station. Signals however are also received at several hundred miles distance at night time, providing a limited secondary service area. The primary service area is provided by what is termed "the ground wave." This is the wave propagated over the surface of the ground at low angles to the horizon, and thus requires an aerial having maximum propagation at low angles, and minimum "sky wave" radiation as explained hereafter.

* 14 Durham Road, Surrey Hills, E.10.

Fig. 3a shows the desirable radiation pattern for a broadcast aerial. Fig. 3b shows the radiation patterns of three aerials, $\frac{1}{4}$ wave, $\frac{1}{2}$ wave and $\frac{5}{8}$ wave. An examination shows that the 0.625 λ ($\frac{5}{8}$) has a nice low angle major lobe, but unfortunately has an appreciable lobe at 60°. The half wave (0.5 λ) has no high-angle lobe but has radiation at higher angles than the $\frac{5}{8}$ one. In practice it has been found that an aerial of 0.53 to 0.56 wavelength gives very good



DESIRABLE PATTERN FOR B/C. AERIAL. FIG. 3a.

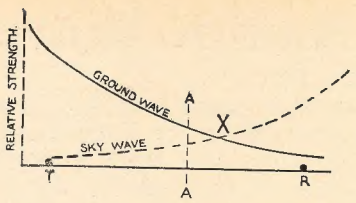


Fig. 4—Fading of Radio Signals (Medium Wave).

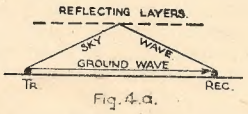


Fig. 4a.

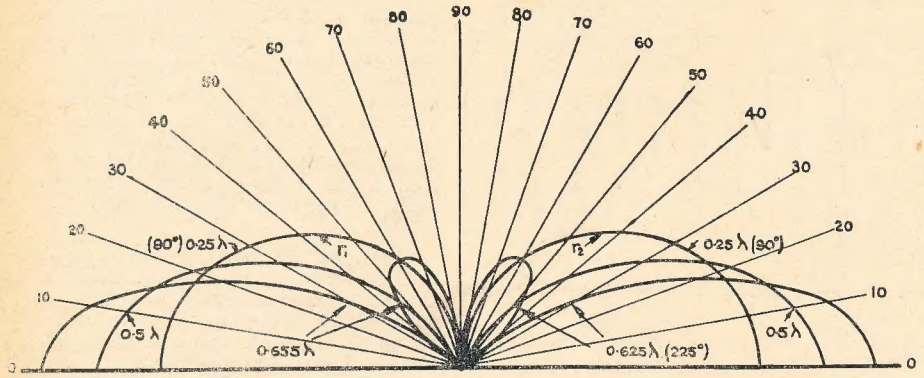


Fig. 3b.—Radiation Patterns (Vertical Plane) for Grounded Vertical Antenna of 0.25, 0.5 and 0.625 wavelength height (90, 180 and 225 degrees).

characteristics with only a small radiation lobe at about 60°.

The reason for not desiring the high angle radiation is that it causes fading. The fact that it provides a secondary service area at night is not as important as the fact that it causes an area of severe distortion and fading which limits the primary service area of the station.

Fading occurs when the sky-wave and ground wave have comparable strengths. Fig. 4 will make this clear. Fig. 4a shows the paths to a receiving point of the ground and sky waves, and Fig. 4b indicates the way in which the signal strength varies. At point AA the sky wave is 50% of the ground wave and bad fading commences; at point X the signals are equal and very severe fading will be experienced; at R the sky wave tends to take charge, the ground wave rapidly dying away.

Reference to Fig. 4a will indicate that at the receiving point, "Rec.," the sky wave will have travelled a longer distance than the ground wave and there will thus be a phase difference between them, and the signal received will be the algebraic sum of the two signals. The reflecting layers vary in height, as does their absorption, consequently the sky wave signal varies in intensity and also in phase difference, thus causing constantly changing degrees of fading.

In the daytime the reflecting layers are highly charged by the sun's radiation, and the sky wave is absorbed without reflection. Thus in the daytime there is an absence of both fading and secondary service area.

The importance of reducing the sky-wave radiation from a medium-wave broadcast aerial is thus apparent.

Radiation and propagation in other bands will be discussed in a later article.

YOUR ATTENTION—PLEASE

Since the end of the war Federal Executive and the Victorian Division have been sharing the Post Office Box 2611W. It has now been decided that mail for the Victorian Division shall be delivered to the Rooms, and that F.E. will take over the Post Office Box.

For Box 2611W G.P.O., Melbourne:—

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Federal QSL Manager.—All correspondence dealing with QSL matters, applications for W.A.C. Certificates or Awards.

For "Law Court Chambers," 191 Queen Street, Melbourne, C.1:—

Secretary, Victorian Division.—All correspondence concerning Victorian matters only.

Editor, "Amateur Radio."—All correspondence concerning the Magazine, Notes, Technical Articles, Contributions, and all matters relating to the financial and distribution aspects of the Magazine.

TWO SOLDERING IDEAS

A neat gadget for cleaning your soldering iron may be made as follows. Take an old phonograph needle cup, drill two small holes and screw it to the work bench. Pack it rather tightly with steel wool. A twist of the iron in the cup—presto, a nice clean iron. Secondly, on those hard-to-solder jobs where the iron is too small for the job in hand, try pre-heating the metal parts to be soldered with an electric hot-plate, toaster or other source of heat. The iron will not then have to lose so much heat, and the operation can be performed successfully.—QST, January, 1946.

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NEW ELECTRICAL STANDARDS

THE "ABSOLUTE" UNIT

Many of our readers will have heard of the impending change in the international standard for the Ohm, the Volt, the Ampere, etc., and may have read announcements that the laboratories of the world, including the National Physical Laboratory in Engand, the National Bureau of Standards in the U.S.A., and their equivalents in France, Germany and U.S.S.R. have adopted new values from the 1st January, 1948.

These new values, which are in accordance with decisions taken by the International Committee of Weights and Measures at Paris, in October, 1946, are termed "absolute" units and are based on the familiar centimetre, gramme, second (C.G.S.) system. They replace the existing "international" units.

The following table shows the change in values:—

1 international ohm	=	1.000495	absolute ohms
1 international volt	=	1.00033	absolute volts
1 international ampere	=	0.999835	absolute amperes
1 international coulomb	=	0.999835	absolute coulombs
1 international henry	=	1.000495	absolute henries
1 international farad	=	0.999505	absolute farads
1 international watt	=	1.000165	absolute watts
1 international joule	=	1.000165	absolute joules

Preparations for this change in Australia have already been made. It is known that the Australian National Standard Laboratory took action some time ago to have their testing equipment calibrated on the new system, and an announcement describing the application of the change to Australian electrical standards is shortly expected.

SIGNIFICANCE OF CHANGE

In the first place, the values of these fundamental quantities are the foundation on which the entire structure of accurate electrical measurement is built. For some types of work, comparative values are quite sufficient, and comparisons can be made to a high degree of precision. But the engineer who relies on comparative values sooner or later comes up against the hard fact that there is no substitute for knowing where he stands in relation to the true, or accurate, value.

Consider, for example, the building of a large turbine-generator. This job, a serious business, may take a year or more and requires large amounts of material and the efforts of many people. Once it is completed, the engineers make careful tests to measure the unit's efficiency. These tests form the basis for determining the machine's performance, and also serve as a guide towards the improvement of future machines. The difference in efficiency between successive machines is necessarily small; a slight error in measurement could mask improvements which the design engineer spent much effort in incorporating into the machine. The time between tests of the original machine and its improved counterpart may be two years; thus the measurements must be accurate in the true sense that they go back to fundamental standards and are not expressed on a day-to-day comparative basis.

In the second place, a careful engineer or physicist often makes checks by independent methods to verify the soundness of his assumptions. Those most concerned with accurate measurements have occasion to make similar tests to ascertain the validity of the units with respect to their relation to other units in the meter-kilogram-second system. For example, the force on two parallel current-carrying conductors is calculated from an expression embracing forces and lengths as well as electrical quantities. If the electrical quantities are not exactly determined, there will be an inequality in the equation.

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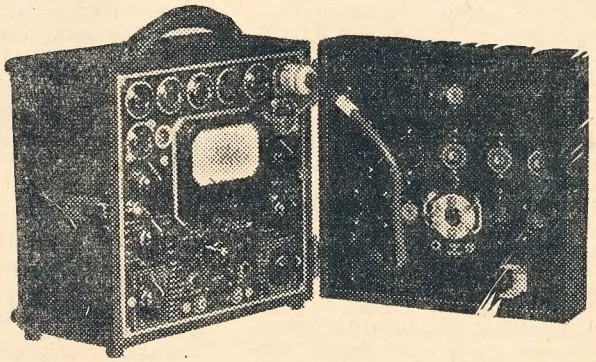

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THE AR7 FOR HAM BANDS

BY C. H. CASTLE*, VK5KL

Many of us have been fortunate to obtain from Disposals the Australian-made Communications Receiver well known as the AR7. Main disadvantage of most of these Receivers was the high noise level to signal ratio, especially on the highest frequency band. After months of trying for optimum performance, the following improvements are suggested, taking each section individually, as was found to improve performance.

POWER SUPPLY As originally there was always trouble with the 6X5 rectifier, plate to cathode shorts, and constant blowing of fuses, and at times burning up of the Yaxley switch used to change from off position to a.c. or d.c. The first major change was to replace the power transformer with a normal type 385 v. aside at 125 Ma., 6.3 v. filament and 5 v. for a 5Y3 rectifier. The Yaxley switch was dispensed with, and replaced with a toggle switch for switching on and off the a.c. input.

Fusing was changed to the use of one globe, and holder, in the centre tap return to earth. All chokes and by-pass condensers associated with the vibrator section were removed, but the filter network in the a.c. input was retained. After re-wiring the receiver filaments in parallel to take the 6.3 volts, tests showed that the noise level was already reduced.

AUDIO Only addition here was the insertion of a 2 Megohm resistor from plate of 6V6 to plate of 6G8 to provide parallel inverse feedback.

SECOND DETECTOR The pot and resistor combination used as a noise limiter was disconnected in favour of 1 Megohm resistor from B plus to screen and 0.1 uF. by-pass. An alternative being tested is the use of a 6C8 as infinite impedance detector using one triode and a 6H6 mounted under the chassis as a series noise limiter. The second half of the 6C8 will be used as the first audio. The potentiometer controlling the noise limiter will be in normal position on the front panel. Addition of this will bring the receiver up to modern standards.

I.F. CHANNEL First item is to renew the crystal gate, also the second and third i.f. transformers because most were never impregnated enough to keep moisture out, hence performance is low. 6SK7s replace the 6U7s and the necessary rewiring done. Replacing of the screen resistors is a must as most, you will find, have increased their resistance by use. Re-alignment of the i.f's. can now be done as per usual practice.

MIXER Here is the heart of the receiver and of course received most attention. After weeks of comparing different combinations of mixer-osc. circuits etc., final choice was the converter ECH35. This was found to be equal to the separate osc. systems tried, for signal-to-noise ratio, and made for simplicity, as it is not then necessary to have an osc. tube mounted underneath the chassis. The original tube (6K8) works satisfactorily even at 28 Mc., but inherent noise level is high. As you get into the high frequencies the 6K8 tends to super-regenerate in the osc. section, and a high noise level is the result. Also the signals are not clean cut, and osc. drift is bad.

The first necessity is stabilising the oscillator plate voltage. A VR105 was installed in the spare socket of the power supply, and a fifth lead run to the receiver, replacing the 4-pin plug and socket with a 5-pin. Taking out the 50,000 ohm dropping resistor and using a 6,000 ohm wire wound in the regulator circuit in the power supply, cures all oscillator drift. The secret to success with the ECH35 at 28 Mc. and higher, is to use a 20,000 ohm oscillator grid resistor instead of the normal 50,000. This immediately increases the oscillator grid current to about 500 micro-amps., and it is necessary to reduce the oscillator plate tickler coil turns until 200 micro-amps. grid current is obtained.

NOTE.—No. 1 pin must be earthed, so as to earth the coating on the tube. Now the receiver will start to perform and in the writer's case just replacing the 6K8 with the ECH35 showed an increase of two S points on the meter on a constant signal. Re-alignment of the circuits improved reception all round.

R.F. STAGES Choice here of high gain tubes was for 6AG5s because the full 250 volts can be used on the plate. Replacing of the tube sockets is necessary and because of the sharp cut off characteristics of the tubes, a.v.c. was disconnected and circuits re-aligned.

COILS For 28 Mc. take an "E" band coil that normally tunes from 12.5 to 25 Mc., and remove the fixed padding condenser on each coil and remove half a turn from each grid coil (heavy winding). Re-alignment of the oscillator coil variable padders is necessary for the best results. With the set upside down and front to you, the trimmers on the left of each coil box are for low frequency end, those on the right for the high frequency end of the band.

Juggling of these trimmers will give you up to 500 degrees on dial band spread or less at will, or can be lined up so as to cover 27 to 30 Mc., so covering the new band at 27 Mc.

For 14 Mc., take a "D" band coil. Remove the iron core from the coils and by taking trimmers from an "A" band coil and putting in the "D" band, re-wire as per the "E" band coil for 28 Mc. Re-alignment will give you all the band spread necessary and it will be a pleasure how many more signals you can hear.

With these alterations you will have as good a receiver as they come, with plenty of r.f., i.f., audio gain and low internal noise level. This can be tested as follows: With no aerial on the set and all gain controls full on, the noise level should be low and the receiver immediately becomes alive with the aerial on. The sensitivity and signal-to-noise ratio is really good, and you can sit back feeling that at least you have a good receiver.

No receiver diagrams or photographs are included as this receiver is well known.

* c/o. Dept. of Civil Aviation, Darwin, Northern Territory.

EDITORIAL

(Continued from page 1)

Telecommunications and Radar, through Area and Unit appointments to jobs as operators or maintenance personnel on current Service Communications and Radar equipment. Outside the commercial field the R.A.A.F. has three major sources of personnel from which to draw in obtaining the 2,000 odd men required; from Hams and Radio Personnel who served in R.A.A.F. Radio Services during the War, from ex-Radar personnel who are not Hams, and from Amateurs generally.

The announcement of the formation of the Radio Reserve in this issue sets out only general terms of service. It merely intends to indicate that a Radio Reserve is to exist, the conditions of Service and how it fits into the R.A.A.F. organisation. Details of enlistment, qualification requirements and training plans are now being worked out and will be announced as soon as possible.

No information is available concerning the possibility of Army or Navy Radio Reserves being formed, but if either of these Services do take similar action to the R.A.A.F., then the W.I.A. will extend to them the same facilities and co-operation. In the meantime, however, we commend the R.A.A.F. Radio Reserve to you as a means of fitting yourself to serve your Country in time of war in an activity in which you are not only intensely interested, but for which you have proved your aptitude. An enthusiastic acceptance of this scheme will provide yet further proof that our hobby is indeed a National Asset to the Country.

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ENGLISH AND AUSTRALIAN.—Australian Radio World, 10/-; Amateur Radio, 6/-; Electronic Engineering, £1/12/6; Radio and Hobbies, 12/-; Radio and Science, 12/-; Shortwave Magazine, £1/5/6; Wireless World, £1/5/-; Wireless Engineer, £2.

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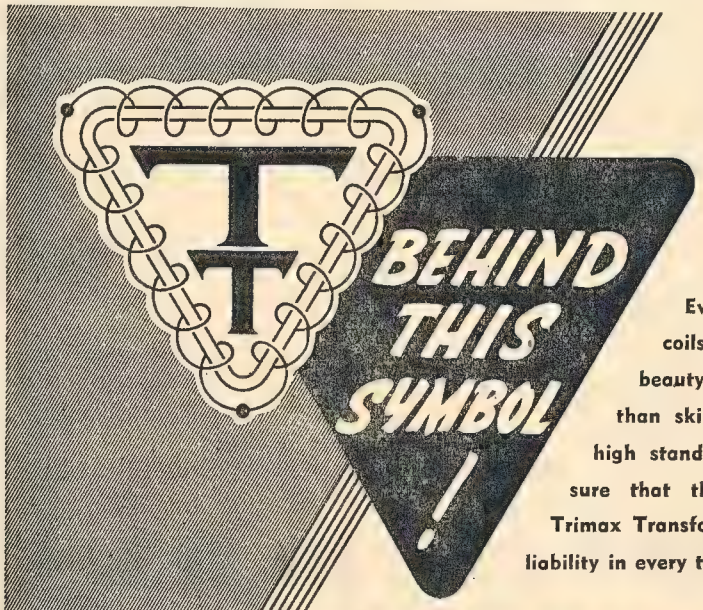

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QUESTIONS AND ANSWERS

One month old and already a lusty infant! It's a case of first come, first served, so if you want a question published don't waste time in sending it in as our space each month is limited.

If you have a question of a technical nature send it in to "Q. and A.," "Amateur Radio," Box 2611W, G.P.O., Melbourne, and if suitable it will be published in this column. If you can answer any of the published questions you are invited to send same to the above address. All such replies will be forwarded to the questioner (if he has sent a stamped addressed envelope of suitable dimensions) and also a summary printed.

In the future, when necessary, the question may not be printed again with its answers, but can be identified by the sequential number. Nuff said, so let's to business.

Q.1.—What is the velocity factor of nylex twin power flex?

A.1.—The answer from VK2CS is being held over till next month as we hear a rumour that a lot more of the good oil is about to arrive. The same rumour has it that the flex is hot stuff up to 60 Mc. and that the coloured insulation is better than the clear. Sounds screwy but we'll wait and see.

Q.2.—Why are filter chokes put in the high tension lead where the windings have to be well insulated from the core when it appears that they would work equally well in the return lead at approximately earth potential?

A.2.—VK3SO says: "Mainly habit. Brute force filters work equally well with the chokes in either positive or negative lead. The only catch being that in the good old days when wet electrolytics were available the can of the first electrolytic had to be above chassis potential. In fact if in the negative lead the voltage drop across the choke can be used for back bias after filtering with a simple RC filter."

VK2CS, quoting Terman: "The side of the circuit with the series impedance may be placed in either lead of the filter. However, if one output terminal is grounded, and it is essential that hum voltages in the output be extremely small, then the filter chokes must be placed in the ungrounded lead. This is because of the electrostatic capacity of the transformer secondary to ground."

NEW QUESTIONS

Q.3.—From VK3SO: What is the correct method of determining the load resistance for the modulator when screen modulation is used? In other words, what is the impedance of the screen of an 807 working at 150 v. and drawing a static current of 3 Ma. Is it 50,000 ohms? If not what is it and why?

Q.4.—From VK3BM: Can anyone supply technical data and socket connections of voltage regulator tube marked "Admiralty pattern voltage stabilizer 5458 NSI 280/80?"

FACTS ABOUT NYLEX POWER FLEX

We are indebted to S. W. Grimsley VK3ASG (engineer at 3UZ) for the following.

So many amateurs and enthusiasts are using Nylex twin parallel pair flex cord for feeder lines for various types of antennae that I thought I would try and ascertain from the manufacturers just how this line will perform at radio frequencies.

The Chief Electrical Engineer of Moulded Products Ltd., Mr. T. L. Martin, has been most helpful in this regard, and at his instigation, various tests have been carried out with some rather promising results. Phase velocity figures have not yet been compiled, these I hope to have ready by next month.

Nylex parallel pair flexible cord consists of two 23/.0076 insulated conductors laid parallel and joined by a small webbing. The physical dimensions are as follows: radial thickness of insulation in inches, average .034, minimum .026, average overall diameter of each core .114 inches. Average overall dimensions: width is 0.238 inches, maximum thickness is 0.114 inches.

The insulant is not affected by direct sunlight, nor is it affected by oils, grease, acids, alkalies, ozone, or corrosive gases. Nylex insulating material does not absorb moisture, will not support combustion, and is self extinguishing. It does not age or oxidise in service. The cord is obtainable in various colours and each colour has slightly different performance figures.

Characteristic impedance and loss figures are as follows:—

Colour	Impedance in Ohms	Attenuation db/100 ft.
Blue	157	2.08
Black	165	2.48
Red	157	2.82
Brown	155	2.83
White	152	3.02
Yellow	161	3.38
Clear	146	3.73

The loss figures were calculated at a frequency of 45 Megacycles. It would appear by the figures that this line performs reasonably well, at least up to the 50 Mc. band.

Amongst the fraternity who have in the past favoured the clear variety, do I see a few eyebrows raised?

ELIMINATING BACK LASH IN BC348 RECEIVERS

Back lash in the turning mechanisms of the BC348 series receivers can be eliminated by slight adjustment of the screws that mount the tuning condensers. The holes in the bracket on the condenser are sufficiently large to allow the condenser to be moved far enough to take up the back lash. It is only necessary to loosen the screws on the dial end of the condenser mounting bracket and the sub-panel casting. Twist the screw driver blade until the slack in the gears is taken up, and then re-tighten the mounting screws.—QST.

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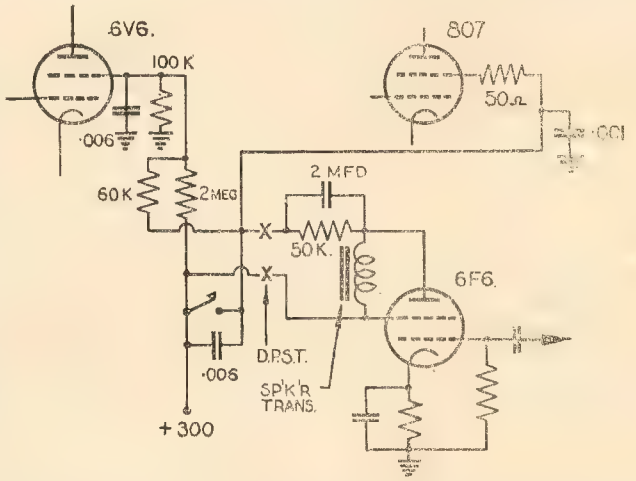
SHORT CIRCUITS

SATISFACTORY SCREEN GRID KEYING AND CHEAP R/T

Having employed screen grid keying of my rig using only a 6V6 oscillator and 807 amplifier, I have had many requests for particulars of the circuit used, as back waves seem to cause some problem in other systems. I am therefore forwarding you particulars of the system used here because it is simple and efficient and it can be quickly adapted for quite fair phone.



In the 6V6 screen network the 100,000 ohm-2 megohm network is adjusted by varying the value of the 2 megohm resistor to as high a value as is consistant with the crystal oscillating immediately the h.t. is applied. The 60,000 ohm resistor is varied so that the grid current to the 807 is never higher than 5 Ma. on c.w. nor less than 2 Ma. on phone. It is a compromise arrangement, but it works really well here and the original 807 I bought when they first appeared some years ago is still going strong with 700 volts on the anode.

For phone operation, the screen voltage of the 807 MUST be reduced so that it varies with modulation between zero and not more than 300 (the maximum screen voltage). In practice it will be found that a d.c. voltage of 125 is the highest you can use satisfactorily, and the 50,000 ohm resistor by-passed by the 2 uF. reduces the screen to this value.

It will be seen that with the set-up shown, part of the modulation is also applied to the screen of the 6V6, which, in this case, is the crystal oscillator, and whilst it is widely recognised that it is unsatisfactory to modulate a crystal oscillator, I find that there is a very marked improvement in the signal when the modulation is also applied to this screen.

The screen dropping resistor to the 6V6 is NOT by-passed for audio for two reasons; firstly I use a dynamic or ribbon microphone and in both cases the bass response is too pronounced and better reports are obtained with the screen resistor unby-passed for audio, secondly the unby-passed resistor very conveniently limits the a.f. applied to this screen.

Keep your 807 anode voltage as high as possible within the tube ratings. On c.w. keying is excellent, and on R/T satisfies those who want phone now and again, without much expenditure.—VK3TY.

REPAIRING LOOSE GRID CAP

Many Amateurs have from time to time met the problem of the best way to fasten a loose grid or plate cap on a valve. I have solved the problem by removing the faulty cap, thoroughly cleaning and tinning the wire lead. Smear a small quantity of polystyrene cement on both the glass and the inside of the cap, allow to become tacky, similar to using a rubber solution when mending a puncture. Now place the cap on and with a hot soldering iron run in a liberal amount of solder and keep the iron on until the cement bubbles and the heat drives out the air inside the cap. This will form a partial vacuum and when dry the cap will be as strong and in the majority of cases better than the original.—VK3XJ.

FEED-BACK TROUBLE IN THE MODULATOR

That feed-back may not be r.f.! Has it ever occurred to anyone that it may be supersonic. For those who are using 6L6s as modulators, screening the plate leads and interposing a metal screen between modulator sockets and pre-amplifier-driver stages cured this trouble in VK5XU's shack. The feed-back may be sufficient to cause squegging in the pre-amplifier stage only when delivering into the transmitter load, which fact makes it harder to trace (five days says 5XU!).

PLUG IN COILS

For a set of experimental Marquis coil formers, solder 18 gauge wire into the pins and bend at right angles. Coil windings can then be easily attached or detached whilst determining the correct number of turns or spacing by twisting the coil ends to the correct tag and then screwing on the upper former.

REMOVING R.F. FEED-BACK FROM MODULATOR

VK5PS reports that the r.f. feed-back into his modulator was found to be coming via the buffer stage and corrective by-passing in that stage cured the trouble. Moral: Look to all sources of r.f. generation when chasing that elusive gremlin, and not the modulated stage only.

FIFTY AND UP

Not much news this month from VK6 re 50 Mc. as most activity has taken place on 144 Mc. 6GB, 6GM, 6FW and 6LW just missed QSOs last week as each in turn wasted an evening on four consecutive nights. Probably the shacks have been too chilly since the cold spell hit us. 6GB and 6GC still continue to do a fine job re-broadcasting the W.I.A. news each Sunday morning on 50 Mc.

A rather complicated hook-up took place last week-end when several stations co-operated in an attempt to relay the ZS 7 Mc. news broadcast. The broadcast was picked up on 7 Mc. and relayed on 28 Mc. by a ZS station to VK6KW, who relayed the 28 Mc. signal to 6GB on 144 Mc. 6GB in turn was to have relayed on 50 Mc. but because of the poor signal (a result of the ZS forgetting to put a 7 Mc. antenna on his receiver) this was not done. However, these stations intend to try again each Sunday at 2.30 p.m.

6AG of Darlington and 6GH of Claremont are the only newcomers to 144 Mc. since last month. 6AG has been working regularly with 6KW, 6RU and 6GB over a 15 mile path with excellent results and with various antenna arrangements. 6GH has receiver and transmitter both on the band and has already worked 6KW. 6FC looks like being the next on the band. His converter is ready and he has started a separate transmitter with 815 in final. Hope the path to 6LW doesn't constitute the difficulty it did on 50 Mc.

144 Mc. DIGEST

"Whoopee' another National two-way phone record smashed and right on the very first 144 Mc. Field Day in VK3, which went under way on Sunday, 6th June. This fine effort was put up by 3ABA-YS located at Mt. Macedon for a distance of 122.1 miles to 3CI who was operating at Foster North; congratulations indeed to Jim, Fred and Syd. The Macedon signals were R5, S6-7 at Foster North, while 3CI was quoted as R4 S3-4. The gear used by 3ABA-YS was the mod. osc. employing p.p. 7193s with a 6V6G as the modulator on to a three element beam plus the A.S.V. receiver; 3CI's outfit was listed in last month's issue.

Last month we incorrectly published details of 3ABA-YS' gear. The following is the correct details: The antenna at the home location is a six element parasitic beam 35 feet high while the main rig of 4 watts is a crystal (147.12 Mc.) job of three stages using 6N7 osc. tripler, 6V6 doubler, and the 832 final.

For the past four weeks activity in VK3 was carried on by 3ACM, 3ADF, 3AKI, 3ASG, 3ABA-YS 3EH, 3EM, 3XM, 3ARK, 3AJ, 3LH, 3HE, 3MB, 3TO and 3JO, the latter is chief wire tapper when on m.c.w. via a 1 watt transceiver plus a 6O4—what no key after our disposal sales!! 3AG has a rock for 144.138 Mc. so this looks like a T.A.C. session on the band. 3AJ is also on 144.138 Mc. using a six element Yargi close-spaced T matched 35 feet up and a modified SCR522 to the extent of 15 watts; a four acorn tube converter feeds the band into a Marconi B28 receiver of 12 tubes.

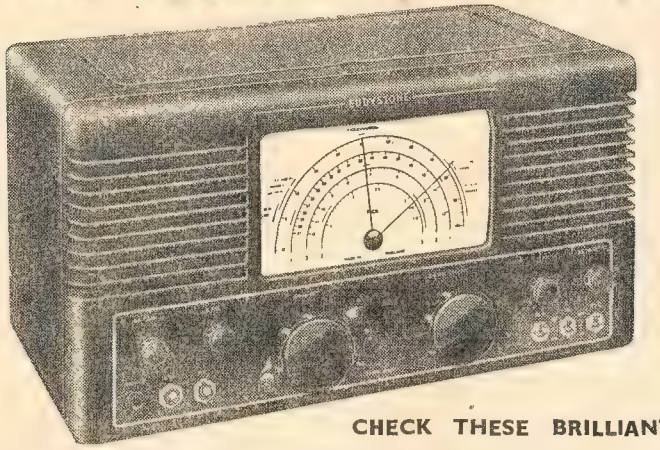
3EM is now employing a code wheel so as to ease the wrist while carrying on with the workshop jobs. 3TO is lashing out in great style via a 35 foot mast to support the 15 element stacked half waver and also provides a good checking channel with crystals for each Megacycle on the band. 3ADF did not need his v.f.o. this time to shift, it all went by van to a new QTH. It is suspected that the hat will go around at the next V.H.F. Meeting for any surplus petrol coupons as needed by the former 144 Mc. phone record holders; Buninyong here we come.

Restrictions on power supplies in VK5 due to the coal shortage has held up operations on the 144 Mc. band, however in between the gang have been busy hunting up copper tubing. 5JO, 5AX, 5GA and 5NG are the most interested parties, the former is on a visit to VIM to obtain the means of going out portable. Just to hand is the information that the boys are not on the right band yet, looks like more water is needed at the Windmill Club. Activity is under way at Mt. Gambier where 5JA and 5MS are doing the pioneering work. 5JA has a 15 watt three stage v.f.o. outfit on 146 Mc.

Reports from VK2 indicate that the 144 Mc. band is pretty well populated and a number of new voices are heard each week. For cross-town work, most of the locals are going back to the vertical polarisation as they find the horizontal too sharp and so keep on missing out on each other. Some of the former prominent 50 Mc. boys are on the band and not with slung-together gear, but the real thing, like 2RU who is building a complete rig. Erratic conditions still prevail, Sydney hears Newcastle one night then the reverse is the case the next night.

THE "TOPS" in AMATEUR COMMUNICATION RECEIVERS

The EDDYSTONE "640"



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4. INPUT IMPEDANCE—400 ohms.
5. TUNING RANGE—
   (1) 31 to 12.5 Mc/s.
   (2) 12.5 to 5 Mc/s.
   (3) 5 to 1.7 Mc/s.
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10. OUTPUT. Audio frequency output exceeds 3.5 watts.
11. "S" METER. A socket is provided for an external "S" Meter.

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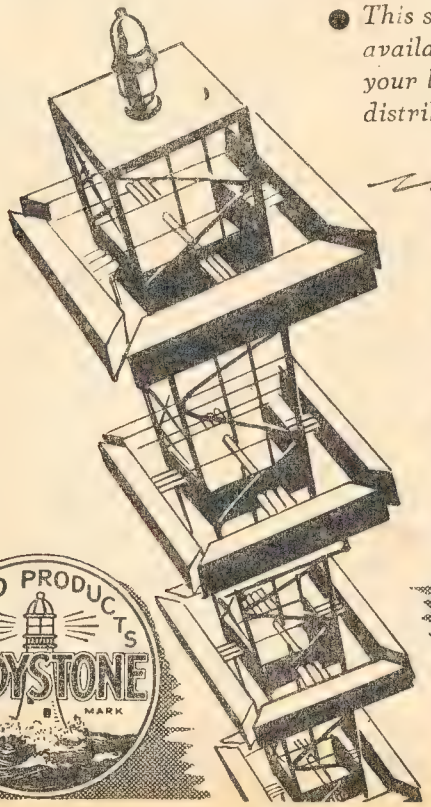

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All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7190 Kc. and 2000 hours EST 50.4 Mc. No frequency checks are available from VK2WI.

VK3WI.—Sundays, 1130 hours EST 7196 Kc. Spot frequencies every fourth Tuesday, between 7000 and 7200 Kc. every 10 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours EST simultaneously on 7109 Kc., 14342 Kc. and 52.004 Mc. Frequency checks are given two nights weekly, and the hours are announced during the Sunday broadcasts.

VK5WI.—Sundays, 1000 hours SAST on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Sat 2 p.m. Sun. 9.30 a.m. W.A.S.T. between 7000 kc. and 7200 kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 1030 hours EST on 7174 Kc. No frequency checks are available.

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FEDERAL

FREQUENCY ALLOCATIONS

Listed below are the frequencies at present available for Australian Amateurs, and also types of emission that may be used:—

3.5	to 3.8	Mc.—A1, A3.	
7.0	to 7.2	Mc.—A1, A3.	
14.0	to 14.4	Mc.—A1, A3.	
26.96	to 27.23	Mc.—A1, A3, FM.	
28.0	to 30.0	Mc.—A1, A3.	
50.0	to 54.0	Mc.—A1, A2, A3, FM.	
144	to 148	Mc.—A0, A1, A2, A3, FM, Pulse.	
288	to 296	Mc.—A0, A1, A2, A3, FM, Pulse.	
576	to 585	Mc.—A0, A1, A2, A3, FM, Pulse.	
1345	to 1425	Mc.—A0, A1, A2, A3, FM, Pulse.	
2300	to 2450	Mc.—A0, A1, A2, A3, FM, Pulse.	
5650	to 5850	Mc.—A0, A1, A2, A3, FM, Pulse.	
10000	to 10500	Mc.—A0, A1, A2, A3, FM, Pulse.	
21000	to 22000	Mc.—A0, A1, A2, A3, FM, Pulse.	
30000	and higher	Mc.—A0, A1, A2, A3, FM, Pulse	

DX C.C. LISTING

Applicants for any one section of the DX C.C. need not submit again cards already submitted in respect of another Section. All applicants' cards submitted are recorded, with the necessary details, by the Awards Committee.

PHONE

Nil

C.W.

VK3CN (3)	120
VK3BZ (14)	109
VK3EK (10)	107
VK3VW (12)	105
VK2EO (7)	103
VK2QL (13)	101

OPEN

VK3BZ (5)	126
VK3HG (4)	121
VK2DI (2)	117
VK3KX (1)	106
VK3MC (6)	106
VK4HR (9)	101
VK2ACX (8)	100

Figures in parenthesis indicate membership number to the DX C.C.

Further changes in prefixes have been notified by various countries:—

Swaziland	ZS7
Basutoland	ZS8
Bechuanaland	ZS9
Cyrenaica	MD1 and MC1
Tripolitania	MD2 and MT2
Eritrea	MD3 and MI3
Somalia	MD4 and MS4
Trieste	MF2
Germany (French)	D5

SILENT KEYS

ALEC MARSHALL VK2HM

We regret to record the passing of one of New South Wales' really old time Amateurs. Best known for his work from Armidale on the old 32 metre band, Alec recently made a comeback on 20 metre c.w. Vale to a VK2 veteran.

THE R.A.A.F. RESERVE

During the past two months, the plans for the ultimate Permanent Air Force, the Citizen Air Force and the R.A.A.F. Reserve have gradually shaped themselves, and it is now possible to see the overall constitution of Australia's post-war Air Force. In February the R.A.A.F's. plans for a huge reserve were announced, when the Minister for Air (Mr. Drakeford) revealed that the proposed strength of the Reserve will total many thousands of officers and airmen. It will consist of:—

Members demobilised from the R.A.A.F. who are still eligible for active service;
Members of the Permanent Air Force who have completed their initial and subsequent periods of engagement;
Qualified aircrew and tradesmen of the commercial aviation industry;
Members who have completed a period of active service in Citizen Air Force Squadrons;
Officers whose short-service commissions have expired;
Ex-members of the R.A.A.F. Nursing Service, the W.A.A.A.F. and the Air Training Corps.

"It is planned," Mr. Drakeford said, "that the Permanent Air Force Reserve alone will total 5,000 to 8,000 men, which is based on the estimated number of personnel required to cover urgent requirements in fixed and mobile establishments. We would need this figure to bring all existing units up to strength of war establishments and to form such ancilliary units as would be required to accompany a mobile task force overseas at short notice."

The Permanent Air Force Reserve (or Active Reserve) will comprise personnel who are immediately available for mobilisation in an emergency in order to bring existing units to war strength and to man those additional units required upon the outbreak of war.

The Citizen Air Force Reserve will consist of ex-members and all persons who may be partly trained, and who will be available after mobilisation to fill establishments of the expanded Air Force.

The Permanent Air Force Reserve will be established, in the first instance, from personnel who have served during the 1939-45 war and who are able and willing to undertake such annual or periodical training as the R.A.A.F. may, from time to time, require. In the initial stages, such training will be confined to lectures, films, and distribution of training pamphlets which will be made available at centres to be arranged by air and other officers commanding. Subsequently this Reserve will be maintained primarily from personnel completing engagements in the Permanent and Citizen Forces. Conditions of service are as follows:—

Engagement for five years and further re-engagement each of five years;
Applicants must volunteer for service and be accepted for enlistment in the Reserve;
Applicants must possess honourable discharges;
Applicants must be medically fit for service;
Applicants must report annually, in writing, notifying addresses or change of addresses, and other particulars as may be required;
Personnel appointed to the Reserve will be appointed in the temporary rank previously held.

Retirement from the Reserve will be governed by the same retiring ages as are applicable to the Permanent Air Force, viz.: General Duties Branch—Flight Lieutenant at 41 to Air Commodore at 52; Other Branches—Flight Lieutenant at 49 to Air Commodore at 58; Airmen of all Musterings and Categories—55 (other than those with exclusive aircrew qualifications for whom the retiring age is 40).

The Citizen Air Force Reserve will consist of personnel possessing qualifications required for service in the various branches of a modern Air Force. It will be constituted initially from trained personnel, including the R.A.A.F. Nursing Service and the W.A.A.A.F. who served during the 1939-45 war. This Reserve will be maintained partly from personnel trained in the Active Citizen Air Force, and partly from persons in civil life who possess qualifications required by the Service. Personnel serving in this Reserve will not be obliged to undertake any form of annual training but will be required to give an undertaking that, in the event of a national emergency, their services will be readily available to the R.A.A.F. However, it is hoped that they will voluntarily undertake the limited forms of training initially planned for members of the P.A.F. Reserve. Conditions of service are as follow:—

Volunteers with previous service will be entered in the Reserve in their last substantive or higher temporary rank;
There is no time qualification in regard to service, and personnel in this Reserve may withdraw on giving due notice;
Personnel will be retired at the equivalent retiring ages for the Permanent Force;
Persons desiring to enrol in this Reserve must undertake that they will report for duty when called upon in an emergency; that they will state their general health at time of notifica-

tion, and report subsequent changes which may render them unfit for service; that they will notify changes of address promptly; and that they will re-affirm their desire to continue service and the state of their health at the time.

Reservists shall not be required to undergo training outside the Commonwealth or its Territories without their consent. When reservists are called up, they shall be liable to serve for the period for which the Reserve has been called out, or for the period for which they have volunteered, whichever is the longer.

The details of the regulations by which the Reserve will be governed are as follows:—

Reservists proposing to leave the Commonwealth temporarily shall notify the Air Board of their intention, but the appointment of reservists taking up permanent or protracted residence abroad shall be terminated;

Members on the Reserve shall rank as junior to members of the same rank in the Active Force, and, when called up for service, members of the Reserve shall rank and take command with members of the Active Force as though their seniority bore date from the date of being called up, or, if promoted whilst called up, from the date of such promotion;

Ages for retirement shall be as prescribed for members of the Permanent Force but, in time of war, the ages for retirement may be extended for an additional period not exceeding the duration of the war and a period of three months thereafter;

Persons appointed to the Reserve will be appointed in the substantive or higher temporary rank previously held, but persons who have not had previous service shall be entered in such rank as may be approved by the Air Board;

A reservist shall be liable to pass such tests of efficiency and other tests for his category and rank as may from time to time be required by the Air Board;

Reservists will not receive any pay, allowance or promotion unless and until they are called up for service, or in the case of the Permanent Air Force Reserve, unless they are required to undergo a period of continuous training.

The division of members of the Permanent Air Force and Citizen Air Force Reserve of officers will be categorised into general duties, technical, equipment, accountant, special duties, medical and dental officers and officers of the R.A.A.F. Nursing Service and the W.A.A.A.F.

It is intended that the airmen's list will correspond with the new aircrew categories trade groups, and an additional category will be added to provide for the entry of ex-airwomen.

Consideration has also been given to the enrolment of members of the Air Training Corps who have retired from the Corps upon attaining the age of 18 years. The transfer of such members to a special category of the Reserve will create a valuable pool of enthusiastic young men.

The Reservists will be kept in touch with latest developments in the R.A.A.F. by means of special training bulletins, service pamphlets, newsletters, lectures, films and, wherever possible, visits to R.A.A.F. stations and units for the purpose of viewing new equipment and flying demonstrations.

Linking closely with the Air Force Association in each State, the R.A.A.F. will make every effort to foster the interest and enthusiasm of its Reservists.

It is intended that the plans include the incorporation of the pre-war Wireless Reserve in the R.A.A.F. Reserve, and that the numbers of radio personnel in the Permanent Air Force Reserve will be at least 230 officers and 1,800 airmen. This compares with the pre-war total of 193 members, 188 of whom received commissions during the war.

It will be the policy of the Service to enlist the aid of the Wireless Institute of Australia to assist in the training and recruiting of the part of the Reserve, and it is proposed to organise the radio functions of the Reserve on an area basis to effect the complete integration necessary if it is to be of maximum use in war.

Under such an organisation, the Chief Signals Officer of each R.A.A.F. Area will be responsible for the training of reservists including instruction in many of the latest radio and radar devices.

The value of reservists can be judged from the fact that the R.A.A.F. Wireless Reserve in 1939 permitted the R.A.A.F. to man vitally important circuits without delay and to carry out a development plan of expansion which would have been considerably delayed without the able and loyal aid of the members of the Reserve.

The R.A.A.F's. new radio installations, costing £1,250,000, will include a radio teletype communication system using frequency shift and single side band techniques, which, combined with the tape relay system of traffic handling and a new system of very high frequency tone keyed radio links will provide a modern and efficient communication system on which members will be trained.

High powered radio transmitters for broadcasting meteorogical information are being installed at Canberra under an international agreement, which provide for weather transmission from Australia, to be linked with a chain of similar transmissions extending from South Africa to Hawaii.

R.A.A.F. aircraft will be fitted with very high frequency communication equipment, which will provide efficient air to ground communication and will also enable them to use the Department of Civil Aviation's Radio Ranges. These ranges give a visual indication that aircraft are on course when flying along the range.

The R.A.A.F's. approach and landing aids will include the latest aids used in Britain and America, and which enable operators on the ground to see the exact position and height of an aircraft near the airfield, and to guide the aircraft to a landing by radio telephone. Another landing aid to be used is the system which comprises equipment fitted in the aircraft, and operated by the pilot. Indications received from the ground approach beacon and from inner and outer marker beacons will enable the pilot to almost land "blind." Other aids to be installed include Radar Beacons, High Power Medium Frequency Homing Beacons and Cathode Ray High Frequency Direction Finding Stations. The latter, of course, have already been set up at coastal bases to facilitate the R.A.A.F's. search and rescue service to which it is committed under the I.C.A.O. agreement.

AMATEUR CALL SIGNS

We have been notified by the P.M.G's. Department that no Call Sign Book will be published this July. The following are the amendments, etc., to the 1st June.

Alterations:

VK2ABN—W. North, 31 Mirville St., Concord West, N.S.W.
2ACK—R. C. Kirkwood, 355 Pennant Hills Rd., Pennant Hills, N.S.W.
2AFR—R. J. Reynolds, 12 Cotswold St., Westmead, N.S.W.
2AHF—R. H. Jones, Booralla Rd., Edensor Park, Canley Vale, N.S.W.
2AHZ—H. P. Jackson, "Benares," Baroona Ave., Church Point, N.S.W.
2AKW—G. H. Humphrey, 42 Carlingford Rd., Epping, N.S.W.
2BO—E. L. Andrews, "Barnsdale," corner Thorny Rd. & Cambridge St., Fairfield West, N.S.W.
2DS—W. St. Clair, Kempsey Rd., Port Macquarie, N.S.W.
2FN—F. G. Noble, c/o. 62 James St., Murwillumbah, N.S.W.
2IA—K. F. Handel, 529 Homer St., Earlwood,
2JX—P. H. Adams, "Waigani," Plateau Rd., Avalon Beach, N.S.W.
2LU—R. F. Collett, 50 Sharpe St., Belmore,
2ON—R. L. Douglas, Baan Baan St., Dapto.
2PI—W. L. Pitts, "Kenmira," Hall, A.C.T.
2QI—C. Bowler, S.S. Iron King, c/o. 25 Castle St., Randwick.
2QR—J. E. Burstal, "Carlolla," Castle Hill Rd., West Pennant Hills.
2QW—A. G. Bird, 4 Drummond St., Belmore.
2TD—K. R. Doyle, 7 Great North Rd., Five Docks.
2VM—G. W. Morris, 134 Falcon Street, North Sydney.
2VQ—J. W. Paton, 78 Fairlight St., Manly.
2VT (formerly VK6AV)—E. J. Eastley, "Warral," Young.
2YU (formerly VK2NU)—D. Dawson c/o. Station 2TM, Tamworth, N.S.W.
VK3ABJ—B. J. Rogers, 59 Andrew St., Windsor.
3ACS—K. C. Seddon, 7 Wilson St., Brighton.
3AHJ—H. Jupp, Glenroy Rd., Glenroy, Vic.
3AJP—A. R. Herald, 12 Elm St., Surrey Hills.
3ALW—O. L. Wirsu, 31 McArthur St., Moorabbin, Vic.
3BS (formerly VK4LP)—L. N. Page, 589 Whitehorse Rd., Surrey Hills, Vic.
3DC—D. G. Caldwell, 23 Lovell St., South Hawthorn, Vic.
3EQ—N. S. Gee, 14 Ryot St., Warrnambool, Vic.
3FQ—A. C. Yeomans, 25 Duke St., Kew, Vic.
3HQ—Mrs. M. L. Williamson, Bryon Avon, Callawadda, Vic.
3OV—A. F. Cunningham, cnr. Queen & Webb Streets, Altona, Vic.
3PH—N. G. Williams, "Craelbrae," High St., Seymour, Vic.
3QE—E. L. Einsiedel, cnr. Draper & Blackshaw Sts., Ormond, Vic.
3QQ—J. R. Lancaster, 259 Nepean Highway, Parkdale, Vic.
3RB—R. J. Blackham, 31 Fellow St., Mitcham.
VK4AN—E. Heckenberg, Woodstock Ave., Taringa.
4DC (formerly VK4QA)—K. Khan, 22 Sheridan St., Cairns, Qld.
4JH (formerly VK2AJH)—J. E. Hills, c/o. 4GY, Gympie, Qld.
4NL—N. G. Dangerfield, Hobart St., Ayr, Qld.
4SR—T. S. Shoring, 178 Oxlade Drive, New Farm, Qld.
4UX—C. P. Singleton, Tyrell St., Stanthorpe.
VK5BL (formerly VK6BS)—W. R. Sands, 16 Beckman St., Plympton, S.A.
5PK (formerly VK2AGK)—P. T. Hainsworth, 83 Leader St., Forestville, S.A.
5VC—J. G. Mason, 10 Buxton St., Alberton.
5ZN—S. McNamara, 4 West Parkway, Reade Park, S.A.
VK6WD—W. D. Scott, 225 Wellington St., Northam.

New Issue:

VK2ER—J. Chessell, 17 Elizabeth St., Dulwich Hill, N.S.W.
2FU—H. J. Trick, 20 Hill St., Balgowlah.
2IX—R. F. Mussett, 112 Forsyth St., Wagga Wagga, N.S.W.
2KT—L. P. Gerity, 71 Albion St., Waverley.
2LL—H. W. Waugh, 57 Bent St., North Sydney.
2MX—J. W. Jennison, "Wallaroo," Mathoura.
2SR—G. E. Switzer, 177 Bacon St., Grafton.
2TZ—C. D'Evelynes, "Clayden," Grana Rd., Mona Vale, N.S.W.

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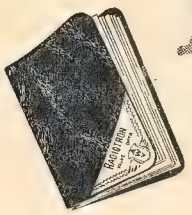

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2XI—C. P. Pickup, 19 Essex St., Epping, N.S.W.
2XK—W. J. Wilson, 68 Artarmon Rd., Willoughby, N.S.W.
2YH—C. E. Aston, 25 George St., Marrickville.
2YK—C. A. Coyle, 84 Carlton Cres., Kogarah Bay, N.S.W.
2YS—N. B. Littlejohn, 23 Victoria St., Strathfield, N.S.W.
2ZM—B. E. Shaw, 126 Wyadra Ave., North Manly, N.S.W.
VK3AAJ—R. A. Fookes, 41 Oxford St., Burwood.
3ABN—G. E. Budden, 122 Power St., North Williamstown, Vic.
3ABO—M. Nichols, 3 Alfred St., Mornington.
3AFG—F. A. Glover, 36 MacArthur St., Sale.
3AFS—A. F. Stow, 8 Short St., Northcote, Vic. (Portable).
3AGF—G. T. Bartlett, 132 Madden Ave., Mildura, Vic.
3AGO—E. C. Sloss, 63 Roslyn St., Burwood.
3AGX—R. G. Rivett, Springs Rd., Clayton.
3AKB—A. K. Ballantyne, 66 Cochrane St., Brighton, Vic.
3AMR—M. J. Rieper, Bent St., Bairnsdale, Vic.
3ASS—Army School of Signals Radio Club, Balcombe, Vic.
3MI—W. A. McLeod, 6 Palmerston Gve., Oakleigh, Vic.
3PB—G. J. Griffiths, 59 Flemington Rd., North Melbourne, Vic.
3QT—R. L. Topp, 393 Elgar Rd., Mont Albert.
3RH—H. A. Raid, 65 Railway St., Traralgon.
3RX—J. M. Gillespie, 22a Mercer Rd., Malvern.
3WU—J. E. Ironmonger, 23 George St., Hartwell.
VK4CY—H. R. Greber, Grand Hotel, Wharf St., Maryborough, Qld.
4GS—G. Strohfeldt, Halland Tce., Camp Hill.
4MF—F. M. Nolan, Portable of VK4FN.
VK5DY—G. E. Delahoy, Aeradio Station, Darwin.
5JB—J. S. Kirkpatrick, 16 Sussex St., Glenelg.
5TD—T. J. Davies, 53 Cator St., Glenside, S.A.
VK6BM—C. Medbury, Carroll St., Applecross, W.A.
6WI—W.I.A. (W.A. Division), Box N1002, G.P.O., Perth, W.A.
VK7AN—W. C. Gee, 5 Winscombe Cres., Sandy Bay.
7CA—M. A. Chaplin, 33 D'Arcy St., South Hobart, Tas.
7OL—O. L. Brown, 314 Davey St., Hobart, Tas.
VK9ML—M. S. Lang, c/o. O.T.C. (Aust.), Port Moresby, Papua, T.P.N.G.

Cancelation:

VK2ALE—C. J. Boyton, 78 Salisbury Rd., Stanmore.
2JS—J. M. Roberts, 12 Nicholas Ave., Campsie.
2MR—M. R. Cran, 35 George St., Rockdale.
VK3BS—A. B. Splatt (deceased), Mountain View Road, Montmorency, Vic.
3PB—J. a'B. Boyd, 40 Grant St., East Malvern.
3QT—A. W. Norgate, 104 Melbourne Rd., North Williamstown, Vic.
3RX—C. Serle, 93 Mitford St., Elwood, Vic.
3WU—C. S. Woods, Colac, Vic.
3ZA—E. L. A. Sims, Montrose Ave., Apollo Bay.
VK4DM—D. H. Anstey, Tenth Ave., Coorparoo.
4FY—T. W. Petersen, Sirius St., Coorparoo Heights, Qld.

HAMS WHO LOST THEIR LIVES DUE TO SERVICE

VK2AJB—G. C. Curle .. .. .. R.A.A.F.
VK2BQ—F. Easton .. .. R.A.A.F.
VK2JV—C. D. Roberts .. .. .. A.M.F.
VK2VJ—V. J. Jarvis .. .. .. R.A.A.F.
VK2YK—W. Abbott .. .. R.A.A.F.
VK3DQ—J. D. Morris .. .. A.M.F.
VK3HN—J. McCandish .. .. .. A.M.F.
VK3IE and VK5EM—J. Mann .. .. R.A.N.
VK3NG—N. E. Gunter .. .. M.N.
VK3OR—M. D. Orr .. .. R.A.A.F.
VK3OW—G. L. Templeton .. .. R.A.A.F.
VK3PL—J. L. Colthrup .. .. .. R.A.A.F.
VK3PV—R. P. Veall .. .. A.M.F.
VK3SF—S. W. Jones .. .. A.M.F.
VK3UW—J. A. Burrage .. .. .. R.A.A.F.
VK3VE—J. E. Snaddon .. .. .. R.A.A.F.
VK4DR—D. Laws .. .. A.M.F.
VK4FS—F. J. Starr .. .. R.A.A.F.
VK4PR—R. Allen .. .. R.A.A.F.
VK5AF—C. A. Ives .. .. R.A.A.F.
VK5BL—Brian James .. .. .. R.A.A.F.
VK5BW—G. Phillips .. .. A.M.F.
VK6GR—A. H. G. Rippen .. .. .. R.A.N.
VK6JG—J. E. Goddard .. .. .. R.A.A.F.
VK6KS—K. Anderson .. .. A.M.F.
VK6PP—P. P. Paterson .. .. .. R.A.A.F.

We wish to finalise the list of names above within the next month as the Perpetual Trophy for the Remembrance Day Contest is to be inscribed with the above list of names. Please send any information, changes to above list, etc., to Federal Secretary, Box 2611W, G.P.O., Melbourne, at the earliest.

4XD—K. W. Nutt, 57 Roberts St., Townsville.
VK6PK—P. E. Kernick, 12 Canning Highway, South Perth, W.A.

FEDERAL QSL BUREAU

A new QSL Bureau for Germany has been established with address as follows: QSL Bureau, Stuttgart, Postbox 585, Stuttgart, Germany. To quote from their advice: "We distribute for all Germany but British and U.S. forces in Germany have their own QSL service."

PK6XA E. A. Krygsman, care N.N.G.P.M., Morotai, N.E.I., in forwarding a large bunch of QSLs adds the following: "Please ask VK Hams to QSL. I am still waiting."

Geoff Warner (VK9GW) asks all State QSL Managers to again note that he cannot distribute for any VK9 stations not shown on the following list: VK9OU, 9BI, 9NK, 9ML and 9GW. Geoff has returned a stack of cards for other VK9 stations who will not bother to claim them.

W8GER, the QSL Manager for W8, with address as 959 Riverside Drive, Dayton 5, Ohio, U.S.A., enjoins all QSL Managers to forward W8 cards direct to him and thus assist him to provide a better service. He is also desirous of Australian postage stamps.

G2FSY, Fredk. J. Brock, 9 Christian Fields, Norbury, London, S.W.16, England, in gratefully acknowledging the receipt of a food parcel from the Victorian Division, expressed his desire to contact any VKs who were in the R.A.F., particularly those attached to 13, 88 or 114 Squadrons during the war. Ex-Flying Officer Brock is on the air on 28 Mc. every Tuesday from 0800 to 1900 G.M.T. with breaks for fodder). He would appreciate a card from any of his old squadron mates.

Old-timers of the Victorian Division were pleased to see Gil Miles (VK2KI) at the June Divisional meeting. Gil was scheduled to give a talk at a recent VK3 Divisional meeting but had to return to Sydney at short noitce for an emergency job. It is anticipated that the talk will materialise at a not too far distant meeting and it is hoped that his subject will be Radio Controlled Miniature Aeroplanes and the methods by which these miniatures transmit to ground weather data from altitudes of thousands of feet.

Welcome home to Noel Roberts, VK3NR ex-VK5NR, after a goodly so-journ at Katherine, N.T., where he made large tallies of DX on many bands. Noel, like a lot more of us, notes with dismay the bedlam on that good DX band—7 Mc.—and wonders how long the chaotic conditions there are to be permitted to continue. Our wish Noel is for a long stay in VK3, and a good posting when another eventually comes along. VK5 QSL Manager please intercept Noel's cards and divert them to VK3.

An interesting and probably a record radio family is that of Sam Roth, W0RIA, of St. Paul, Minn., U.S.A. Sam, who is ex-W9RIA, musters the following call signs under his family group: VE4DF, VE4RN, VE4CL, W9TSV and W9QBT.

Recommendations for W.A.C. Certificates for the period January 1 to May 31, 1948, are: Phone—VKs 3XJ, 3HO, 3HW, 3JE, 6PJ, 6DX, 7AB; C.W.—VKs 3JE, 3EK, 4FJ, 5FH, 5LG, 6BG and 7DW. No applications were received from VK2.

SOME DX QTHs

AP2D—J. K. McDowall, 15 Ruthven Ave., Giffnock, Scotland (or GM3AR).
AP5B—D. T. Boffin, 4 Racecourse Rd., Lahore, Pakistan.
AR1RJ—R. Jalal, Box 35, Damascus, Syria.
AR8AB—Jean Remonnay, University of St. Joseph, Beyrouth, Lebanon.
AR8BC—Box 1119, Beyrouth, Lebanon.
C8YR—Yu-Ruey Chi, Box 73, Lanchow, Kansu, China.
CZ2AC—Rosetta Moncini, Vicolo Teatro Ristori 10, Verona, Italy (Station in Monaco).
HV2B—c/o. Radio Station, Vatican City, Italy.
LZ2AA—Box 123, Sofia, Bulgaria (Under Cover).
ET3AE—Bob Newsberg, Box 145, Addis Ababa, Ethiopia.
ZD1BD—Royal Signals, Freetown, Sierre Leone, West Africa.
ZS9NU—Aeradio Palapye, Palapye Rd., Bechuanaland, South Africa.
EA3ZT—Mario Flaque, 268 Aragon, Barcelona, Spain.
EA5AF—Lorenzo Navarro, Puerto Rico No. 37-20, Valencia, Spain.
EA1A—via W1AZW.
EA1AB—F. Fuente, Oficial de Telegrafso, Santander, Spain.

NEW SOUTH WALES

ANNUAL REPORT OF THE COUNCIL 1947-8

Ladies and Gentlemen.

In keeping with the world in general, the transition from war to peace has presented the Division with its many and varied problems, the majority of which so far encountered have been satisfactorily overcome. The responsibilities of the Council have been considerable and without exception, not one has been able to devote the attention to Institute affairs that he would have wished. It is to be regretted that we were without the services of a Secretary for five months in spite of all efforts to find a volunteer. At the same time, due to the state of our finances, consideration could not be given to the appointment of a paid Secretary. We are happy to report that with the appointment of Mr. Wal Nye (2XU) our secretarial problems have been temporarily removed whilst the financial position as disclosed by the Accounts and Balance Sheet must be regarded as satisfactory under the circumstances. When studying the accounts, it should be remembered that there has been no increase in the membership fees although the cost of printing and stationery, postage, rent, per capita to the Federal Executive and the magazine cost have all risen considerably.

A Finance Committee comprised of 2VN, 2UX and 2AGO was appointed early in the year to assist and report to Council concerning our finan-

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cial affairs. This Committee has done much helpful work.

In the Federal field, many of the changes in regulations recommended at the 1947 Convention have been introduced by the Postmaster General's Department as the results of the efforts of our Federal Executive.

Whilst it is regretted that we are little further ahead in moulding the Divisions into a single body —nation-wide W.I.A. governed by a Federal Council working to an all embracing constitution, your Council has left no stone unturned in striving to attain this end. This matter will again be pressed at the 1948 Federal Convention.

In spite of adverse comment in certain quarters, it is felt that we should be well satisfied with the decisions reached at the International Telecommunications Union meeting held at Atlantic City. Few people realise the magnitude of the demands now made for frequencies by commercial and defence interests throughout the world. There is just one point however, and that is that if we are to retain our present allocations, they must be put to good use—furthermore, we must have unity. As the W.I.A. is Australia's national body and thus the mouthpiece of the Amateur in the Commonwealth, we cannot relax until we present 100 per cent. of the licensed Amateurs.

To put our own house in order, it has become quite obvious that the Division is in need of Club Rooms and a paid Secretary and that means finance. So far, we have been unable to solve this problem but suggest to all members that it be kept foremost in their mind for the future.

Membership.—As at the 29th February, 1948, the membership stood at 495, comprised of 347 city and 148 country members. During the last few months of the year, a membership drive was inaugurated—a circular setting out the benefits to be derived from Institute membership together with an application form is being forwarded to all new licensees, a circular couched in somewhat similar terms is sent to all non-members with their QSL cards whilst much publicity is given through the medium of the regular VK2WI broadcasts. Results so far show that the drive is having the desired effect and it is up to each and every member to do his or her part.

During the year, Mr. W. M. Moore (2HZ) and Mr. W. Zech (2ACP) were elected to Honorary Life Membership in recognition of their sterling services to the Institute; Mr. Zech being a foundation member. Mr. Moore in acting as the principal operator of VK2WI during the year has been of great assistance.

Disposals.—A big percentage of both city and country members have participated in the purchase of a considerable quantity of equipment from the Liquidation Commission. We desire to place on record our appreciation of the Queensland and Victorian Divisions' co-operation in making available to our members, equipment from their respective States. As disclosed by the accounts all equipment has been passed to members at cost plus a small margin to cover freight charges. The brunt of the work in handling this equipment has been ably borne by 2YP.

A.O.C.P. Classes.—Two A.O.C.P. Classes have been conducted by the Division during the past twelve months—the first under the management of 2ABS and the course now in progress under 2BF. From the experience gained in earlier classes, it was decided to extend the duration of the course from three to five months.

V.H.F. Section.—This section under the able leadership of 2NP with 2PW as Secretary has made great progress. Meetings are now held on the second Friday of each month in the small hall at Science House and the attendance has been as high as 50. Some really first-class lectures have been provided v.h.f. enthusiasts whilst the work of the section as a whole must be regarded as highly satisfactory.

Annual Dinner.—The Annual Dinner was held at the "Dungowan" on 7th August and attended by some 55 members and visitors. Distinguished guests included the Superintendent of Wireless Mr. T. Armstrong and the President of the Institution of Radio Engineers, Mr. R. Allsop. It is to be regretted that due to the fact that a large number of members who had signified their intention to attend did not do so, the Division suffered a considerable financial loss as disclosed by the accounts.

Amendments to Articles of Association.—During the year, our Articles of Association were amended to permit the membership to be increased from 500 to 1,000 and to provide that our financial year ends on the last day of February annually. This date is now uniform to all Divisions.

QSL Bureau.—The number of QSL cards handled exceeded 3,000 per month and the Bureau ended the year just square financially. During the year, lack of envelopes and very erratic overseas mail made the running of the Bureau very difficult and the ideas of Council for improving the service to members had to be curtailed. The Council thanks those who came forward with envelopes when lack of them had made the work extremely arduous—2DI, 2ID, 2OE, 2TH, 2ZC not to forget 2AGS who collected them between Melbourne and Perth and 2FA whose efforts enabled members to receive their Monthly Bulletins at a crucial period! The QSL Officer would like to record his appreciation of the help he received from 2HI whose assistance was invaluable in preventing Bureau work from accumulating whenever there was a sudden rush of mail. Our sincere thanks also go to Mrs. Corbin for her continued assistance in not only the QSL Bureau but also the despatch of the monthly bulletins.

Council.—The vacancy on the Council caused by resignation of 2TR on 10th February was not filled due to the proximity of the Annual General Meeting. 2TR regretfully tendered his resignation for business reasons. The Treasurer, 2DR, was also compelled to resign for similar reasons, however his responsibilities were assumed by 2AND who has carried on in a most efficient manner.

The following table shows the attendance of Councillors at meetings, the total number held being 18: Messrs. P. H. Adams 17, T. R. Anthony 7, J. B. Corbin 16, G. W. Dukes 16, C. D. Hutchison 14, M. H. Meyers 16, J. Moyle 17.

In conclusion, we would like to reiterate the well chosen words of our 1947 President, Mr. Bill Moore, in his report: "It is an accepted fact in physics that you can't get even as much out of a machine as you put into it." It is generally believed that this extra effort called for from members has not been forthcoming to the extent necessary. We thank you however, for your support and wish the new Council, whoever they may be, every success.

For the Council,

M. H. MEYERS, President.

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TREASURER'S REPORT

The year 1947-8 has been a record year for the N.S.W. Division as an examination of the accounts and financial statements will show. There are however, a few points which I would like to bring to your notice.

The amount of £86/8/- shown as outstanding subscriptions at first appearance seems rather high, but as the February statements have not been sent out owing to pressure of work and the balancing of the books, it is estimated that this figure will be reduced by £61/13/- leaving a balance of £24/15/- against which a reserve of £15 has been provided for bad debts.

The Disposals Account shows a balance of £40/2/9. There are, however, charges which have to be met, which have not as yet come to hand. These include freight and shipping and insurance on twenty SCR522 equipments from Brisbane. The amount of £162/8/6 is money paid in by members on orders which have not as yet been fulfilled.

A.O.C.P. Class No. 5 is still in progress and part of the amount of £20/0/6 held by the Class Manager will be spent in defraying Class expenses to complete the course. This will reduce the Class profit to below the £92/6/6 shown, but the Classes must be considered well worth while.

The £25 sent to the Federal Executive was this Division's share in the cost of printing certificates which included various Contests, W.A.S., Membership and DX C.C. awards. It has been decided to write this amount off over a three year period during which the certificates will be used.

The rent paid in advance to Science House includes the use of the small hall for the V.H.F. Section as well as the main hall for general meetings and covers the period March to December.

With the adoption of a uniform fiscal year and all subscriptions falling due on the last day of February, my work will be considerably simplified and I will be introducing a more comprehensive system of accounting than that in use at present. Also the work of sending out statements and recording membership data will be much easier. I should like to take this opportunity of urging all members to settle their accounts promptly and thus save me much unnecessary work in sending out extra statements.

B. H. ANDERSON,
Honorary Treasurer.

NORTH COAST AND TABELANDS

2GI experimenting with 3.5 Mc. antenna, fortunate in having plenty of space for skywires. Is troubled with a.c. hash; on 7 Mc. during the day. Solid signal on 3.5 Mc. comes from 2AGM; bad line regulation, but uses auto transformer to keep the filaments under control. 2XO has been on vacation and visited 2GI, 2OE and Lismore gang; next stop Brisbane. 2OE also on vacation, brief visit to 2SH and 2PA. 2AFP troubled with line hash, but heard occasionally on 7 Mc. 2JC on holidays from Sydney (University vacation) and was active on 7 Mc.

With only 5 watts 2ATH is going places on 7 Mc., using the QRP rig as a fireside companion on these winter nights. QRO rig on 14 Mc. Pressure of work keeping 2WC off air; some gremlins in Receiver also. 2JK another one holidaying in Lismore and heard from 2LH, still sounds the same and can be distinguished over any outfit. 2ARJ on 7 Mc. but has some rig trouble, hope they are only little ones! 2SH worried with 3.5 Mc. overtone from 7 Mc. transmissions. 2PA finds 3.5 Mc. band interesting, using long wire. Has b.c.i. plus and phone operating limited in early hours.

NEWCASTLE ZONE

2XQ ardent c.w. man using 6 to 10 watts on 7 and 28 Mc. phone, a nice signal. 2AMM has been heard on 28 Mc. phone, welcome Bill. 2ADX

also very active on 28 Mc. phone. 2AGD taking advantage of dead nights on 28 Mc. by re-arranging shack and putting finishing touches on new receiver. 2AHA awaiting return of DX C.C., congrats on advance. 2BZ not heard on the low bands, still giving the v.h.f's. the works. 2CS doing hard work cutting many and various holes in 10 gauge steel, how are the blisters? 2CI did good work in the Trans-Tasman Contest, should do well. 2TE getting out extremely well judging from reports. 2PQ won an 807 for a novelty code contest at Newcastle Club recently.

COALFIELDS AND LAKES ZONE

2AEZ been holidaying and has plans for complete re-build even including antenna. 2OC active on 144 and getting through to Newcastle and Cessnock, keeps an eye on 50 Mc. for anything unusual. 2TX nothing heard of him during last month. 2AMU getting out fine on 28 Mc. phone judging from the DX calling him. 2RU consistent on 50 Mc. and maybe 144 Mc. soon. No news of the Woy Woy gang. 2TY heard on 28 Mc., what's the latest antenna? 2XT—what progress with the beam? 2YO appears to be inactive.

2KF active on 28 Mc. in the week-ends and doing a bit on 50 Mc., look like loosing Bob when housing difficulties ease. 2ADT still doing things, blew up his 832 on 144 Mc.; before the demise worked Newcastle, Wyong and Blue Mountains, only heard occasionally on 14 and 28 Mc. 2MK doing a little on 28 Mc. and hopes to have new rig on shortly. 2PZ at moment erecting 70 foot steel tower (ex-R.A.A.F.), when finished will have motor at top and several beams. 2YL taking things quietly, playing tennis, spasms on 7, 14 and 28 Mc. Please send news to 2YL the first week in each month.

WESTERN ZONE

Recent arrival in the Blue Mountains is 2EF at Warrimoo, busy with commercial ticket at the moment. 2LY building super rig using two finals (813s), 807s in the exciter. 2FI sometimes leaves the v.h.f's. for a QSO on 7 Mc. 2LZ confining activity to 144 and 50 Mc. 2FH at St. Mary's has erected a 58 foot steel tower, four elements on 14 Mc. will go on top—it is designed to withstand a 90 m.p.h. gale. 2HZ building c.r.o. and super f.s. meter, also known as "The Voice." 2ACU settled down in new house at Coonamble, working nice DX on 14 Mc. 2AMR has new rotary working on 14 and 28 Mc. 2OK and 2VZ not heard often.

2II still working 14 Mc. DX; also on a system of remote control. 2ACT QRT trapping rabbits. 2TG main interest still DX. 2ALX still has the nicest phone on all bands. 2JW is re-building for QRO. 2NS has game sewn up, a couple of Vees on 14 Mc. and the DX comes back; switch the carrier on and off on 7 Mc. phone and back they come. 2IE been on holidays in VK4, still mad with the DX. 2OT trying to work some of the easy 28 Mc. DX I mentioned, but finds it far from easy owing to poor line QRM. 2QA has the ideal QTH, no noise on any band and little traffic to cause ignition noises. 2WH not heard much; concentrating on fat lambs? 2BT bowling them on 14 Mc. phone, when does the phone DX C.C. arrive Bill? 2ALR worried after a look at the back of 2LY's new rig.

SOUTH COAST AND TABLELANDS

The new Wollongong Club is making arrangements to affiliate with the W.I.A.; 2WV and 2UK handling the problems. 2UK has altered modulation system and power transformer doing good job as mod. tranny. 2WP now on 7 Mc. with 6 watts plate phone to Type A Mark 3, larger stage to be added, v.f.o. coming too and two 50 foot bush poles to go up. From Canberra, 2GU active on 50 Mc. regular contacts with 2JU and 2TA. Arch also re-building for 144 Mc. 2JQ believed to have worked South America on 7 Mc. c.w., visited Yass and saw 2ALS and 2DO.

2ALS unlucky lately, off duty due to sickness. 2OY, of Goulburn, used an 804 and 30 watts suppressor modulation, new mod. outfit on way 807s in AB2. 2AIZ same QTH, will be heard soon on 14 Mc. c.w. 2OW with No. 11 on 7 Mc. works VK6 and ZL. 2MT working DX on 14 Mc., also will be building for v.h.f's. 2LA still busy on house renovating. Would stations in the Zone please stand by to contact 2DO on 7100 Kc. after 2WI broadcasts and supply the latest news.

SOUTHERN ZONE

2ANG had parasitic trouble in buffer stage and may re-build, ski-ing is main pastime in the winter. 2APW and 2VK both waiting on AR7 receivers, sorry to hear of serious illness of 2VK's father, we hope for a speedy recovery. 2OJ listening around 50 Mc. but so far no signals heard, Noel stands by for Southern Zone stations on 7180 Kc. and would be pleased to receive any news. 2ST using 6F6 and 807s and 50 watts; is trying crystal mike instead of dynamic headpiece, result much improved quality. 2MF getting downward modulation; interested in the v.h.f's. and hopes for 50 Mc. contacts. 2AIB putting up 14 and 28 Mc. beams, changing the 100 watt transmitter into a bandswitching job, in the interim using phone on a Type 3 Mark 2.

T.A.C. MEETING NIGHTS.

It is noted that the Technical Advisory Committee of the Victorian Division of the W.I.A. hold meetings at the Institute Rooms at 191 Queen Street, Melbourne, regularly throughout the month.

All members and visitors are cordially invited and welcome to attend these meetings at which many technical discussions and demonstrations take place. Meeting nights are as follows:—

1st Tuesday: Practical Work.
2nd Wednesday: V.H.F. Group.
3rd Tuesday: T.A.C. General Meeting.
4th Tuesday: Practical Work.
4th Wednesday: Receiver Group.
5th Tuesday: Practical Work.

VK3WI will announce the programme for these individual meetings in forthcoming broadcasts.

VICTORIA

At the June general meeting two films were screened, one entitled "Radio Antenna Fundamentals" and the other "The Creation and Behaviour of Radio Waves."

The first film illustrated, by means of animated drawings, the reflection of travelling waves on antennae and transmission lines, and the production of standing waves followed. Methods of feeding antennae with different types of transmission lines was illustrated and the effect of series inductance or capacitance on the electrical length of an antenna shown. Various types of aircraft antennae were also shown.

In the second film the propagation of radio waves was illustrated diagrammatically. The production of electromagnetic and electrostatic fields around the electric circuit led on to the production of electromagnetic radiation from an antenna. The film illustrated the propagation of ground waves and the reflection of waves from the ionospheric layers and showed how fading occurs.

These films, on first principles of antennae and wave propagation, serve as an introduction to the subject of the talk to be given at the July general meeting by Dr. A. L. Green, who will discuss the application of Ionospheric Predictions to Amateur Radio Communication.

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T.A.C. ACTIVITIES

Receiver Group.—The May meeting of the receiver group lapsed owing to the inability of the group leader (Mr. George Neilson) to attend. At the June meeting the AR8 receiver currently available from disposals will be featured, and its performance, adjustment and possible modifications discussed.

V.H.F. Group.—At the June meeting results of the 144 Mc. field day were discussed. Mr. Don Hope described the construction of a non-reactive resistor for use in power measurement at v.h.f.

T.A.C. Executive Group Notes.—The erection of a new antenna for VK3WI should be completed shortly. This has been delayed through the difficulties involved in raising the far end, but a steeplejack has now carried out the necessary "high altitude" work and the remaining difficulties will be speedily overcome.

The Sunday broadcasts from VK3WI are now being transmitted on 3.5 Mc. and 7 Mc. simultaneously and reports on the 3.5 Mc. transmission, especailly from country members, will be greatly appreciated.

EASTERN ZONE

The Eastern Zone hook-up is becoming larger monthly and although there are already 17 stations that have joined in, there is still a number yet to make an appearance, so chaps don't forget every Sunday at 2000 hours—on 3650 Kc.

3ANC made his first appearance with very nice

The gathering at the Third Eastern Zone Convention at Tinambra

phone. 3QZ and 3SS deserve a word of praise for the good job they have done re distribution of the Zone's disposals gear. 3HZ, 3VL, 3US and 3CI are to be congratulated on their fine achievements, when on the last 144 Mc. Field Day they had some very interesting contacts and by reports there seems to be big possibilities with this band. 3WE is doing a good job on the bush fire frequency, but says there is not much to report this weather; Bill is always on the spot on Sundays. 3PR has been carrying out low power 50 Mc. tests with 3DI who reports S9 signals. Ron was also successful in putting a signal through to 3HZ.

Another newcomer to the hook-up is 3TH who puts in a very fine signal and takes a keen interest in the zone's activities. Gordon is also interested in v.h.f. 3AMR also made an appearance with a S9 c.w. signal using a Type A Mark 3. 3AEP has a new rig on the way but in the meantime joins in the hook-up with the old one. 3LV is also making alterations to his rig and is now putting out a f.b. signal. 3BB is busy building a modulator and hopes to be on again soon. 3ALS puts out a very good signal on 7 Mc., but he must be busy on Sunday nights. 3AHK has the DX bug, don't you ever hit the hay before midnight? 3AJL has not been in the hook-up for a while, what is the hold up Jack?

NORTH WESTERN ZONE

The N.W. Zone Convention has been definitely fixed for Saturday and Sunday 28th and 29th of August at the farm homestead of 3BM, six miles out of Quambatook. Members of four Zones have already indicated their intention to come, and all visitors will be welcome.

This Zone has shown its appreciation of the Disposals Committee's good work by very substantial purchases, being the greatest per member of any Zone. The 3.5 Mc. transmission from 3WI is very well received up here, with less fading and less interference.

3ACE is doing very well on 3.5, 7, and 14 Mc. with a Type 3 Mark 2. On 14 Mc. c.w. he has worked all W call areas, J, C, G, ON, VE, etc.; also Ws and VEs on 7 Mc. Is putting up a better skyhook. Clyde specialises in marathon ragchews, so beware. 3CH is a real old-timer active again. Has a half wave 3.5 Mc. cage (!) 60 feet high, zepp fed, and is getting out well on 3.5 and 7 Mc. c.w. and phone. His spare time is limited with keeping the ergs up in the local power house.

3AIT, of Sea Lake, has been down visiting the Birchip gang. 3HR has got a pile of disposals gear including Command receivers and transmitters, which he hopes to convert to portable use so that he can have his contacts when out on the road jobs so much. His alternator has broken down beyond repair so he is inactive at present. We are all expectantly awaiting news from 3TL of the new rotary beam. 3CE has the complete AT5/AR8/ACU and genemotor power supply with cables, junction boxes and all fixings AND the book of words. 3OA is quite inactive as far as radio is concerned. Ian hasn't even looked into his SCR522 yet, but intends to tackle 144 Mc. soon.

3BM has cleaned up the sowing operation, and hopes to indulge in technical activity in the shack while waiting for the crop to grow. It's a grand life, farmer-come-ham. Wally Loveland has his 4-band f.b. Bendix transmitter and proposes to use it to drive external finals. Is using a 550/12 volt genemotor to obtain the supply voltages. AR8 is perking well. He is still held up for birth certificate. Should be on the air as soon as licence arrives. Bud Page has his AR8 going. How's the c.w. practice, Bud?

CENTRAL WESTERN ZONE

Judging from "Disposals" notes in last month's "A.R." this Zone will have to be renamed the "Thrifty Zone" or the 1/10 zone. In case some of our members wonder why we spent so little, our representative went down with £90 in his pocket, but as the wanted goods were apparently not available he wisely kept the cash in his pocket,

3TY is settling down nicely at Rupanyup and has the gymnastics of the d.c. supply tricked with a VR150 plus chokes and condensers to remove most of the line noise. Bill has also cleared up a 10-year-old b.c.l. QRM problem and is now looking for the 3.5 Mc. coils he threw away.

3DP is still playing round with his AR8, as Jim says, it looks less like an AR8 every day. We believe 3XC is building a wonderful contraption to remote control the transmitter, how about the dope Willie? 3IQ is at present tied up with commercials on the "Tests" and still building the 50 Mc. gear. Sent over a wavemeter the other day, but the P.O. boys dismantled the condenser on the way across.

3YW has at last got the bugs out of the r.f. stage of the 50 Mc. receiver and looking for 3IV's visit to hear something. 3AKP is still getting his share of DX on 7 Mc. without burning the midnight oil; quite happy about his v.f.o. too. 3ARM, our most western member, was last heard in full pursuit of a 600 volt genemotor. Did you catch it Bob?

Next Zone hook-up 11th July (Sunday) 10 p.m. on 7120 Kc.

FAR NORTH WESTERN ZONE

Since our last meeting we have been pleased to welcome to the Zone 3AGF, who is putting out a nice signal on 7 Mc. He has opened his DX account with a ZL and is a very keen c.w. man. He assists in keeping the local b.c. rig on the air. 3FC has left Mildura and is active on 7 Mc. at Ouyen, where he is postmaster. The d.c. mains have given him a few headaches, notably during his second night on the air at his new QTH, when the receiver filaments blew out. 3TI is engaged in a re-build and will take the air soon with p.p. 807s. Radio service is his business.

3GZ has a fine receiver completed with satin-finish aluminium front panel and AR7-type dial drive. Band switching, crystal filter, noise limiter and S meter should make this job hot up on 28 Mc. Max has charge of the local b.c's. technical staff. 3BV and 3ARG are students at the University Branch. Ian has been active with a Type A Mark 3. Gerry is back from first-term vac. with a load of gear with which he plans to build a 50 Mc. rig. 3PX is heard occasionally on 7 Mc. c.w., but his photographic work keeps him from the key.

3MF has increased power from a Type A Mark 3 to an 807 running 25 watts, also has a modulator under test. When not in the shack he is attending to the cares of local pianists' instruments. 3NG, a Red Cliffs horticulturist, is awaiting connection to the a.c. main. When the juice is available, there is likely to be a zone muster to assist in felling trees around the shack. Bert says some of these are about 70 feet high. Ex-3UG, who had given the game away post-war, has been bitten by the 50 Mc. bug, and is now gathering components for a rig to go on that band.

QUEENSLAND

It would have pleased the writer immensely to have been able to report some spectacular achievements on the VK4 Field Day held on the 13th June, but the weather ran true to form and obligingly turned on a cold damp day. 4VJ, 4TR and party operated from White's Hill near Brisbane, using battery power; 4PR was on a launch down the Bay and seemed to be doing rather well. As a result of skip conditions, the winners will probably comprise those who could operate on 7 Mc. as well as 14 and 28 Mc., as contacts were not too plentiful on the higher frequency bands.

At the general meeting held on Friday, 28th May, an election took place for the position of Federal Councillor, 4FN's term having expired. H. MacGregor (4ZU) was elected after the ballot papers had been examined. The voting: 4ZU, 44 votes; 4FN, 29 votes. Country Representative 4SN, airing the views of some country members, has since suggested that in future ballot papers should be signed by the Secretary, and if possible printed, instead of roneoed.

Council spent some time in discussing this matter, and eventually reached a compromise that the ballot papers would in future be roneoed, and would carry the initials of the Secretary. Most of the Council members are in the dark as to what all this is designed to achieve. The Secretary is of course overjoyed that at last someone has found him something to do, and wishes to make it known that for a small fee he will supply a stamped addressed envelope, lick the flap and drop it in the mail for you. Just in passing, of a total of 84 ballot papers sent to the country, less than 20 were returned, some of them from the extreme ends of the State, which disposes of the "no time" excuse. While we're having a grouch, the membership of the Queensland Division has reached the 200 mark but of these, 15 country and 21 city members are unfinancial. What about it blokes?

Congratulations this month go to VK4HR, who becomes the first VK4 to crack the DX Century Club. Nice work Tibby. In a demonstration of v.h.f. working and associated gear at the June general meeting 4HR will be the station to be worked from the Elizabeth Street Rooms, using both 50 and 144 Mc. gear. A "junk" sale in aid of the Food for Britain Appeal will also be staged and should make the evening quite interesting.

The library service looks as though it is not quite finished. As a result of the bright suggestion of 4WJ, it is now proposed to secure a deposit of 5/- from members wishing to use the library service. If a book should go astray in the post the sender (i.e. the fellow returning the book to the librarian) gets a second chance. If a second book goes astray he forfeits his 5/-. The number of books lost in the postal service is of course a small fraction of the total number which never return.

A very pleasing feature of the Student Section is the steady attendance at Morse Classes. About 20 members turn up regularly and apply themselves diligently to the task of code learning. A word of appreciation to associate member McGregor for

his assistance in instruction. Speaking on behalf of the associate members at the May meeting, 4VJ said that he believed there were quite a few associate members who would welcome the opportunity to visit the shacks of active amateurs and see for themselves the way things were done as regards the building and operation of transmitters, etc. The idea of course has much to recommend it, and the important point for prospective visitors to remember is to notify their victim of the impending visit, as otherwise it may be impossible for them to succeed in penetrating the shack. Hay wire merchants please note!

Learning of the successful W.A. practice of staging short lecturettes at general meetings, the Council decided to stage two at the May meeting and 4KB and 4ZU were briefed to do their stuff. 4KB dealt with Push-Push Doublers, as per QST February, 1938, a circuit by which 4HR skipped up to 288 Mc. without difficulty. 4ZU outlined his experience with R.F. Power Supplies for C.R.O's. Both talks were well received by members present, and the idea looks worthy of further trial. It is believed that the worthy President (4AW) may, if sufficiently provoked, be induced to give a short talk on Lecher Lines. Any more offers?

It is proposed to change the times of 4WI transmissions to fit in with the schedule drawn up by Federal Executive, the new time of the broadcast being 0930 hours, Sunday morning, to commence as from 1st July. The first station on each Sunday is to be VK3WIA, the Federal Station at the old 4WI time of 0900 hours.

The writer has found it difficult in the past to compile material for these notes, mainly due to pre-occupation on the higher frequencies. Having heard via the grape-vine that the low frequency men felt that they deserved better representation, one course only seems open—to let a more competent scribe take over. For a fellow who dabbles mainly on the frequencies below 28 Mc. the job should be a walk-over. At the June general meeting 4ZU will resign as Sub-Editor of "Amateur Radio" and nominations will be called for a new officer. Anyway you've had my notes in "A.R." since 1938, a change should be welcome. 73 OMs.

SOUTH AUSTRALIA

The monthly general meeting was held on 8th June to a very representative gathering. The lecturer for the evening was John Allan (5UL) and his subject was "Predictions." Among the many visitors present were J. Harris, A. R. Harris, P. C. Hutchins (5PH, from Willaston), Bob Parasiers (ex-5RP, ex-6PS), and A. L. Benjaminson (W2IZJ). The lecturer covered himself with glory, and once again proved the fact that providing he knows his subject, and does not try to blind his listeners with science, he cannot go wrong with any subject. I admit, in company with a good many more who attended, that we came along with some trepidation, prepared for the worst. How ill-founded were our fears, is disclosed when I say that John held the meeting in the hollow of his hand for more than seventy-five minutes by what was admitted by all to be one of the most interesting lectures heard for some time. Fortunately for me, and you, most of the lecture took place on the blackboard and the rest on the epidiascope, therefore I cannot give a re-write. However you can take it from me that we learnt a lot about sporadic E, ionospherical refraction, various layers etc., and many other matters which up till then had been a deep and deadly secret.

The meeting closed at a record late hour, as an opportunity was taken to dispose by tender the radio gear of the late Mayo Richards (5WR). With 5BY as chief tender receiver, things went along at a record bat, and as condensers, etc., were offered for tender, the insults flew fast and furious. 5LL tendered for a monitor and received more opinions on his signal in five minutes, than he has had in the many years he has been on the air. Luke gave as good as he received and the meeting was almost convulsed at times. Dougal accepted a tender for an object on the end of the table, and it went for ten shillings before it was realised that it was 5LW that had been sold. That will teach you Ross, not to loiter near the apparatus for tender. 5PS sat near the Treasurer and watched the money roll in, he did not tender for anything, but he managed to scrounge quite a lot. I understand he would have scrounged a lot more but "Doc" was watching him. Anyway a good time was had by all, and that's what a W.I.A. meeting should aim for; am I right?

Heard 5GD, 5GL and 5MD up on 14 Mc. the other night, what's wrong boys? No more fairy cakes, biscuits and tea, etc. 5BW was putting in a good signal from 4MP on 14 Mc. the other afternoon. I recognised the voice Bill, although you had me tricked for a while. You come in stronger to me from VK4 than from your usual QTH; wouldn't it. A real old-timer in 5DX is putting in an extra good signal to me these days. Welcome back Don, it's good to hear you again. A little splatter on the signal, but who am I to point the finger.

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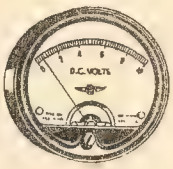

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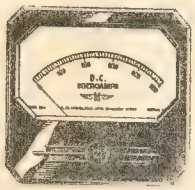

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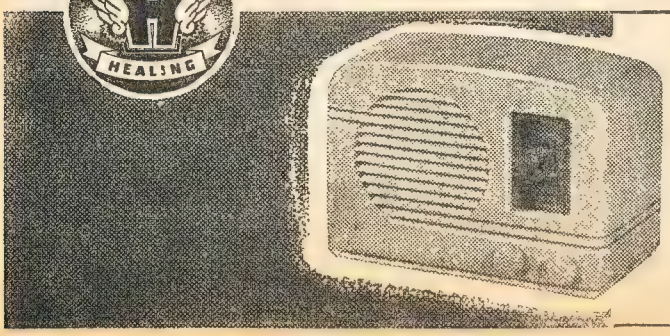

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H2.F.P

Successful candidates in the recent A.O.C.P. examination held in April are J. Young, T. J. Davies, D. A. Crowley, N. L. McGowan, K. S. Harris and J. B. Watson. We extend our congratulations and sincerely hope that these Hams are members or prospective members.

I am in receipt of a letter of congratulation from 5JE thanking me for my publicity efforts in connection with the Glenelg Radio Club. I modestly thank him and hasten to remind him that I have heard no more of the Club, what about it Ted? Isn't it strange, no matter what I do for the W.I.A. the Divisional Secretary can't get around to sending me any sort of a letter, and believe me I have tried hard enough.

The other night a VK2 was parked in the middle of the c.w. end of 14 Mc. telling all and sundry about the mass of technical gear that adorned his shack. It made me feel so inferior as I gazed at the mediocre collection of junk facing me in my shack. I cheered up however when it occurred to me that at least I had a crystal for both phone and c.w. end of the band.

5WM was successful in a recent broadcast operator's examination. Nice, nice work Wick. Me oh my, I am getting old, I can remember when I used to kick him in the deaf and dumb because he was late in getting my lunch.

I take a dim view of those two well known Hams who were heard to say on the high end of 14 Mc. recently, "Be careful George, the menace is on the air and is sure to be listening to all we say." I'll say I did, and will I use it? Not much I won't.

5GD is just recovering from an attack of the vapours or something, because a visitor to his shack later told someone else that George's phone had definite signs of downward modulation. Do you think George went into much of a step-dance when it was repeated back to him. Now he knows what I felt like when the same person put that one over on me. You beaut.

Heard 5AC working on 7 and 14 Mc. with c.w. using a Type 3 Mark 2. Gathered that he was operating inside a caravan which is now his shack. 5RR is in throes of re-building at the time of writing, push pull 807s I believe in the final. 5JP is reported as having gone to Angaston on 20th May. Was heard in Adelaide with a good signal from a portable FS6 loaned to him by 5CD. My latest information about 5RH is to the effect that he is still on the sick list at home, hope that you are OK now Geoff.

5XO and 5ZR seem to have the secret of snaring the phone DX at the high end of 14 Mc. Even when the conditions are real poor these two experts scoop up anything which pops up. What's the secret of success fellows? 5OU is to transfer to VK3 for six months, he will be on the air from 3DT and 3YS occasionally. Hope we can contact sometimes Cliff.

5UX has obliged with a photograph of the gathering at Crystal Brook reported in last month's notes. A handsome looking gang if I may say so. Thanks Les. 5WA reckons that this QSL business is just too easy. He had not even been on the air when he received a QSL card from J2USA. They do not come that easy to me.

The phonetic alphabet is undoubtedly a great thing for communicating by means of phone signals, and the average Ham uses it with his own opinion as to the right phonetics to use. The many and varied types heard on the air are more often humourous than not, in fact Ross Kelly (5LW) always gave us a good laugh with his R—rattlesnake O—ordinary-snake S—snake S—snake. Now that is funny as well as clever, but when a VK5 Ham is heard to give his name as P—putrid H—horrible I—illiterate L—lousy, then he is neither being funny nor humourous, but is only bringing this grand old hobby of ours into disrepute. Don't forget gang, lots of people hear us on the air who are not as tolerant as our Advisory Committee.

5LA is a newcomer to the air, but is making his presence felt already on 14 Mc. Has run up some nice DX and is only using low power too. Is about to join the W.I.A. if my persuasion is successful. Yes, he works on the same shift as I do. Six of us all told, maybe I should have said all six of us were on the pay sheet and left it at that. Listen gang, don't forget that little part of regulation 134 about giving your call sign every five minutes, one or two of the boys have been blistered for that lately.

Regret to announce that one of my best spies in 5LG stepped on a piece of his beam where there wasn't any wood. Leith made a perfect five point landing, but has developed a complex against beams of any description. Understand that the descriptive flow of sweet words that issued from him would have put a professor of languages (no not you 5LW, sit down) to shame. 5BQ was looking for my blood at the last general meeting because of a misprint in last May's magazine. I hasten to correct it, and say that it was meant for 5FQ, and am prepared to take my oath that Bill has never been near Somerton. OK Mrs. 5BQ?

Joe McAlister did a wonderful efficient job of "putting me in" with the office staff at my place of toil recently. When I arrived to take over my shift, the sweet young thing on the switchboard said "there is a letter in the rack for you from someone in the W.I.A." I thanked her in my best wolfy manner and was amazed to have her say "Mr. Parsons, do your friends call you Pansy?" I shook this insinuation off as best I could, but I notice that as I walk around the office these days that a decided coldness has developed among the female staff. Marmaduke, who works at the hairdresser's on the floor beneath, shows a decided tendency to linger in my presence in the lift, so don't suppose I should worry. Thank you Joe, I shall endeavour to reciprocate, both to you and Mr. X whom I suspect was really behind it.

Sorry to hear that Joe Kilgariff is on the sick list, but hope by now that he is on the road to recovery. 5FL has consented to act as stand-in for the traffic schedules, pending Joe's return. The thanks of the VK5 Division are due to the VK3 Disposals Committee for the opportunity of participating in the recent handout.

My spies tell me that there has arisen a new method of DX hunting. First get a fellow Ham with a good beam, have him work the DX and then call you into the QSO. Easy isn't it? Believe 5JK is a sponsor to this new method. Say Jim, when they call you in, what about calling me in too, I have no sense of shame.

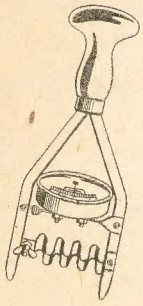
When you are driving in a taxi sometime and you say to the driver "what does the meter say Bud," don't be surprised if he should say "well, QRM is bad on 14 Mc. tonight." If this happens it will probably be 5BQ. How's business Bill.

My, my, to what depths will some Hams sink in an endeavour to secure some new equipment. 5XU gathered up the new Philoscope at the monthly meeting and carted it away with some junk he had bought that night. Believe 5AW nearly had hysterics when he saw Gordon trying to shove the Philoscope up his jumper. Play the game you cad!!

The proposed field day, possibly to be held at Clare around September suggested by the country gang through their representative 5RJ, was well received at the general meeting, and more should be heard of it.

While They Last!

BARGAINS!



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WESTERN AUSTRALIA

The June meeting was held on the 14th. There were 54 present, which was a good attendance considering the wet weather. A cordial welcome was extended to 6MO—Allen from Watheroo. We had also hoped to meet G2RSM Mobile Marine, but his ship did not berth on schedule.

New members admitted were 6LB L. Blackman, 6XF F. Whitfield, 6CK C. Hayes, 6HW H. Willis, and A. D. Hawksworth, L. H. Roegar, D. Annerstey with their call signs on the way. A hearty welcome is extended to these new members and we hope to contact the country chaps as soon as they get going.

The possibility of obtaining some more disposals equipment from a source known to 6MU seems very remote according to latest correspondence. Nevertheless there is some on the way from VK4 and when it arrives the boys will have some crystals for sale.

A telegram from Federal Executive re R.A.A.F. W.R. was subject to debate and a query is being returned to Federal Executive for clarification.

Some anxiety was expressed by 6RU as to the despatch of inward QSL cards to VK6 from VK3. Apparently a few have been going astray and 6RU is going to contact 3RJ about the matter.

6WH made a request that the 7 Mc. channel be kept clear for the 6WI broadcasts on 2 p.m. Saturdays and 9.30 a.m. Sundays. He heard a few of us on last Sunday!

After the discussion on general business, the last names of City members were taken to be in the ballot for the disposals equipment from VK4. Then followed the regular feature of a chin-wag and rag-chew session.

As the QRM died down 6JS presented to the W.I.A. W.A. Division a BC312 receiver (modified for a.c. operation) for use on Station VK6WI, on behalf of the local firm of Atkins (W.A.) Ltd. 6WH accepted the receiver on behalf of the W.I.A. and it was moved that an official letter of appreciation be forwarded to Atkins, thanking them for this very useful piece of equipment. 6MY followed up with a short chat on the features of this receiver.

A very fine lecture was demonstrated and delivered by 6RK. Roger showed us on his c.r.o. input and output waveforms of an audio signal through an amplifier. Distortion due to over-driving was clearly seen. The signal from 6AG's b.f.o. (audio) was analysed. We liked the view of the mountain range that followed, and Wally's only consolation was that it sounded good anyway! A most enjoyable evening was closed at 10.30 p.m.

We believe 6GH is going again after a long silence. His rig is on 144 Mc. band and is well in on the Perth hook-up. 6KE is pleased with the results from his new two element beam on 144 Mc. Keith wonders why he didn't put it up ages ago. ZS6OR contacted VK6KW the other evening and we are hoping to hear him more regularly now that the ice is broken. 6RO's new rig is nearing completion and he will soon be breaking through the QRM on 7, 14 and 28 Mc. We'll be pleased to hear you Bert.

6GM has not been so active these last few months, but he has plenty of time still for W.I.A. activities. 6OR is having a spot of receiver trouble. As soon as he clears out this bug, the rig will be all ready to go. 6RG is another chap we haven't heard lately; his shack must be a cold place this winter. What's cooking Ross? 6GS has been putting Harvey on the air. Blake has a rig on 7 and 50 Mc. and works the Perth boys regularly on both bands.

Haven't heard 6RK lately but am sure that he is about somewhere, just wherever his AT5 will take him. 6RL is talking of a new rig. Ralph expects to be on again any day now. 6HS has his receiver in many pieces and is in the throes of a most modern design. He will be all ready for the summer DX. 6FR is also building up a new receiver so we haven't heard him on lately, but we are looking forward to a "S9 report on the meter" as soon as he is going again.

6WM is a real c.w. merchant and has been working some nice DX on 7 and 1 Mc. How many countries now Bill? Heard 6CF putting out a f.b. signal on 28 Mc. phone and c.w. a few days ago. Keep it going OM and how about a QSO one of these times? 6PJ is building up a 5-inch c.r.o. Peter finds it warmer in the kitchen these wintry nights and is (like most others) looking forward to the summer DX again. Haven't heard 6BK in his usual place on 28 Mc. lately. What's brewing up there Bob? Is it a new antenna?

6GB is one of our 50 Mc. stalwarts who occasionally comes up on 7 Mc. when cross-band QSOs with the country lads are going. What's your best 50 Mc. DX Jack? 6DJ still has the same old rig running. Heard him on at 2 o'clock the other morning. Having b.c.l. trouble, or couldn't you sleep that night? We were very pleased to hear 6AS back on 7 Mc. The old rig was silent during his stay in Carnarvon. Alex found cobwebs and mice had to be removed before closing the big switch.

Heard 6WD keeping Wyalkatchem on the map with a nice 7 Mc. c.w. signal. We expect to hear some phone from him shortly. 6BG is preparing his rig for 7 Mc. band. He has been running 14 Mc. phone but doesn't work as much DX as he did on c.w. there. 6FW gave us a pleasant surprise on 28 Mc. the other day, by turning on phone and working plenty outside VK.

6GC has been bitten by the building bug. We hope to hear Bob's rig working before long now. Don't know whether it is going to be 10 or 100 watts, but it's a 7 foot rack and panel job. 6JN should be a going concern any day now from Kalamunda. John had some oscillator trouble for a while, but has cleaned that up in fine style. 6MB has worked PY on 28 Mc. phone and is very pleased with this effort because his QTH is not the best for DX contacts. 6NL has been experimenting with folded antenna arrays and has been getting encouraging reports from all round the globe. What has the centre impedance gone up to now Val?

DX OF THE MONTH BY VK6RU

The past month of May has been quite a disappointment in the DX field, both the 14 and 28 Mc. bands opening very irregularly. We have been fortunate in some respects, as although conditions have been bad, the DX man's interest has waned somewhat, thereby causing less QRM and competition to the everwatchful individual who is prepared to just sit and wait for the band to open. A number of the rare birds have been landed, no doubt due to the above happening.

Usually the winter months show a decided falling off in band conditions, and after the lucrative summer months with the keen interest shown at that time, one is almost ready to give the game away.

28 Mc. Phone, Europe.—On the few occasions that this Continent has shown any promise some good QSOs have resulted, but unfortunately, the band has not stayed open very long. Times have been irregular; the earliest a European has been heard and worked was 0500 GMT and the latest 1200 GMT. New Zealanders have been heard working Gs across the Pacific at Midnight GMT so this band has sure been crazy. The Europeans worked from here were ZB1AD, G6ZH, EI3J, G6HL, G2DX, SM3ZF, OZ7TS, G8SY, G2HW, GM3XB, I1ON and F8GN.

Asia.—Not many Asiatic stations appear on 28 Mc. these days apart from the Yanks in and around Japan who may be heard almost any and every morning. A few boys from Pakistan seem pretty regular on this band as AP2F, AP2R, and AP4B have been worked a number of times. The only other QSOs with this area were C1CS, HL1AQ and HL1BB.

Africa.—With winter conditions prevailing this Continent has been most reliable and no trouble at all is experienced in maknig contact after contact. The times are 1230 to 2000 W.A.S.T.

The African QSO's were MD5AK, ST2GE, ZS5Q, ZS1CG, ZS6EB, MD4JG, VQ5PBD, ZS2CI, MI3ZJ, ZS1KH, ZS6LF, VQ8AE, ZS6JI, VQ4RHP, ZE2JG, OQ5BR, ZS3F and CN8BA (I've been chasing this latter guy for just two years on 14 Mc. and end up getting him back to a CQ on 28 Mc.).

North America.—Ws are still being worked during our mornings but reports are not as good as they were a few months back. One interesting QSO was with W5VY who was worked at 1430 our time one Saturday afternoon and this corresponded to 0030 his time, the same morning. W6s, 7s and 5s seem to provide the most QSOs from this Continent. On two occasions the band opened the long way around via South Africa from 1800-1900 hours. W9HOI and W8SXC were both worked this way.

TASMANIA

Here we are once more with a summary of the doings in this State over the past month. The June meeting was well attended and after the general business was disposed of, a discussion was held on the whys and wherefores of monitors and the like, and many ideas were given members on the subject by J. Brown (7BJ) and R. Fulton (7AF). It is intended to hold a series of these open discussion nights and they should prove popular.

Our membership in VK7 is increasing rapidly and the hundred mark is in sight and should be reached easily before the end of the year.

Sunday morning still seems to be the popular time for local QSOs on the 7 Mc. band. One can hear just about every active Ham in Tasmania discussing a wide range of topics of general interest.

7EJ has just re-built, and gave me a call the other night. By the way Ted, what was smoking? 7SJ is to be congratulated on the arrival of a junior op. Nice work Syd. Heard 7GR one night after a long silence. You are still S9 plus at my QTH George. Lyn Brown, one of our associates who recently acquired full membership status, is to be heard under the call of 7OL on phone. 7BJ has been crystal grinding in order to get stability in his double conversion receiver. Heard 7AL recently on phone, we don't seem to hear much of you Tom. What's the trouble, b.c.l.?

The A.O.C.P. class is coming along nicely and it looks as though there will be a few more call signs on the air next year. I know my office gets a thrashing these days during lunch hour with morse sessions.

There seems to be a little confusion about the dates of the 7WI broadcasts. They are at 9.30 a.m. on the second and fourth Sundays of each month, so make an effort to keep the air clear in VK7 at those times. The frequency is 7174 for the present, but I guess it will have to be changed sooner or later to a lower frequency.

Worked 9YY (ex-7YY) a week or two ago from his Wewak QTH. He was putting in a nice signal too.

NORTHERN ZONE

If everything goes according to plan the Northern Zone will have been organised by the time these notes are read.

Activity has been very limited this month, in fact the bands have been so quiet that one evening after tea 7BQ, being unable to raise a QSO, decided to call on 7GD; only to find 7GD had gone to bed. Members knowing 7GD will realise the shock 7BQ must have received. In fact Len was so upset that he missed the chance of a lifetime and we still don't know whether 7GD sleeps with his pipe in his mouth or not.

The biggest job in the zone during the month was the raising of 7LZ's 28 Mc. beam. This took the combined efforts of 7GD, 7BQ, 7RK, 7LZ and Perc Crawford. Everything went according to plan, however as yet it is too early to say just how well the beam is working.

The 144 Mc. boys are having their share of fun and worries. At present 7DB and 7BQ are both having trouble getting their converters going. 7BQ has also just completed a new m.o.p.a. on this band.

7DS is at present on holidays and took time off a few nights back to visit 7DB, 3ANL/VK7 and 7LZ. Hugh complains that since he dressed his rig up it won't work properly on 14 Mc.

7AB and 7XL also visited Launceston during the June long week-end. Both Doug and George are still keeping a careful watch on 50 Mc.

As usual 14 Mc. yielded the best DX. However the only stations contacted that were worth recording were ZM6AF, OZ7CC, ZK1AJ, NY4ZQ, HL1BE, VP9E, W0OZW/KS6, KP4AE, CO2PW, KP4OE, C7OK, VO1B and VR3A. Unfortunately EA3KH, VR2AZ/VR1 and W6ODD/YS got away. These stations were all contacted during the evenings. We unfortunately have no knowledge of early morning DX as we have been unable to find anyone willing to give up their sleep in the interests of radio.

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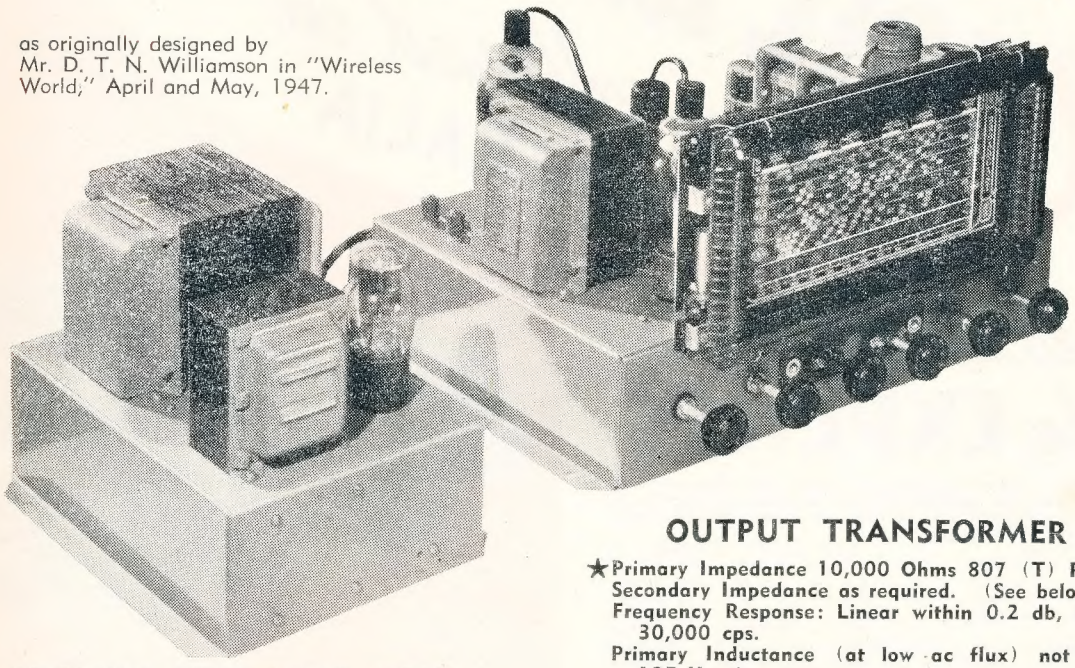

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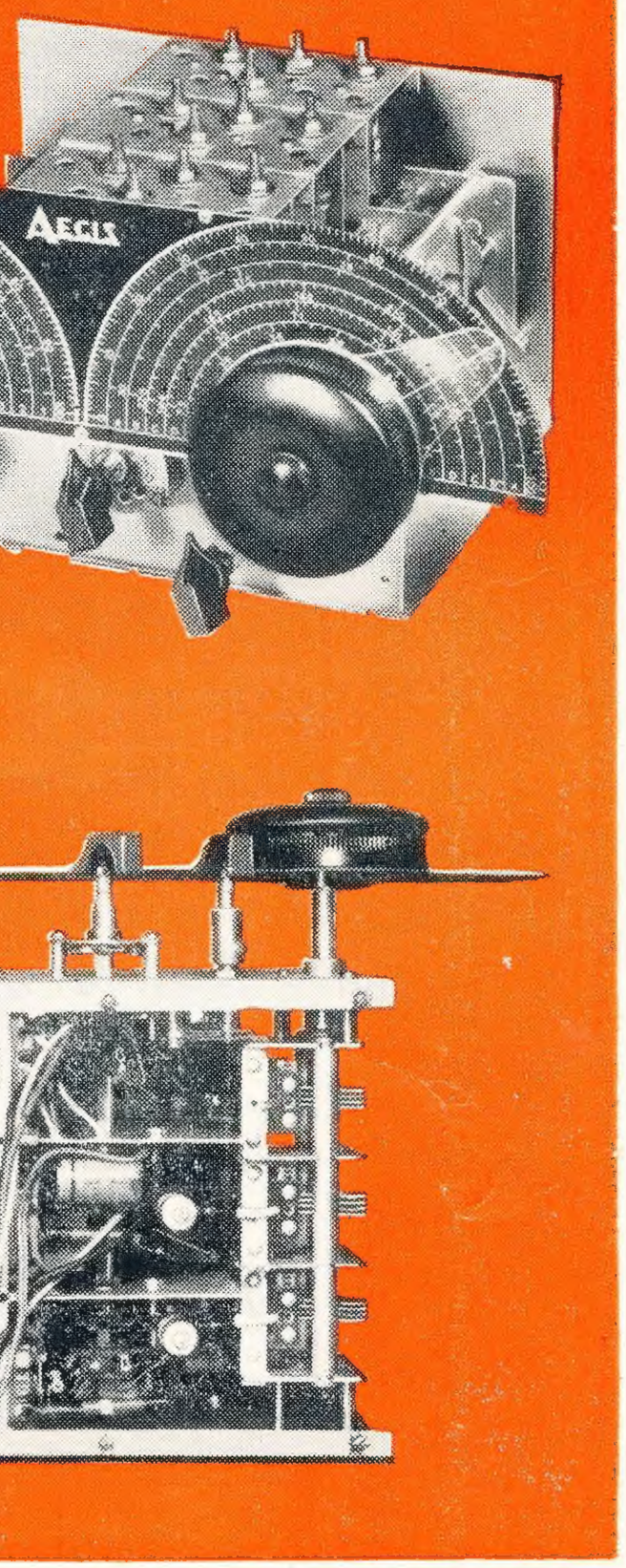

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